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Summary:

Massachusetts Water Resources Authority; Joint Criteria; Water/Sewer

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Credit Profile				
US\$169.07 mil gen rev rfdg bnds (green bnds) ser 2023C due 08/01/2039				
Long Term Rating	AA+/Stable	New		
US\$150.0 mil gen rev bnds (green bnds) ser 2023B due 08/01/2043				
Long Term Rating	AA+/Stable	New		
Massachusetts Wtr Resources Auth WTRSWR				
Long Term Rating	AA+/Stable	Affirmed		

Credit Highlights

- S&P Global Ratings has assigned its 'AA+' rating to the Massachusetts Water Resources Authority's (MWRA) series 2023B general revenue bonds and 2023C general revenue refunding bonds.
- We have also affirmed various ratings on numerous series of general revenue and refunding bonds issued by the authority, including our 'AA+' long-term rating and underlying rating (SPUR) on various series of MWRA's senior-lien debt, our 'AA' long-term rating and SPUR on various series of MWRA's subordinate-lien debt, our 'AAA/A-1+' rating on subordinate-lien debt jointly secured by MWRA and a letter of credit provider, our 'AA/A-1+ rating on subordinate-lien debt where the short-term ratings are based on the short-term rating on the counterparty providing liquidity support, and our 'AA/A-1' rating on subordinate-lien debt where the short-term rating on the counterparty providing liquidity support.
- The outlook on the bonds is stable, except for when joint criteria has been applied to the issue's long-term rating, in which case the outlook is not meaningful.

Security

A senior-lien net revenue pledge secures the senior-lien bonds and a subordinate-lien net revenue pledge secures the subordinate-lien bonds. The authority pledges all revenues--defined as all income, revenues, receipts, and other funds derived by the authority from its ownership and operation of the systems, combined with any existing rights to receive the same in the future, other than certain grant receipts and other funds--as security for the bonds. A debt service reserve requirement for senior bonds is 50% of maximum annual debt service (MADS). A covenant to set rates such that net revenues are at least equal to 1.2x annual senior-lien debt service and subordinate-lien bonds equal to 1.1x.

Credit overview

The ratings reflect a system-oriented wholesale analysis that primarily reflects the large and diverse service base of 62 local bodies providing water and sewer services in and around the Boston metropolitan statistical area (MSA).

Our system analysis is supported by MWRA's rate structure that provides for additional collection mechanisms through both a state aid intercept and, ultimately, an ability to reallocate uncollected assessments through a joint and

several ability to increase assessments on the other local bodies. If these mechanisms were needed to be used by MWRA, we believe their robust liquidity could serve as a bridge to cover debt service payments pending receipt of revenues from these mechanisms.

Other factors supporting the rating at its current level include generally consistent financial performance when considering unrestricted liquidity and coverage of total debt service costs, a low-risk swap portfolio given counterparty diversification and a wide gap between our rating on MWRA's bonds and the 'BBB+' trigger that would cause an additional credit event, a manageable capital improvement program (CIP) given the size of the system, and adequate bond provisions in the general bond resolution, including a senior-lien debt service coverage (DSC) ratio of 1.2x. Offsetting generally lower DSC for the current rating level is the strong revenue recovery mechanism described above and the overall strong credit quality of MWRA's local bodies.

Environmental, social, and governance

We believe MWRA faces elevated environmental risk due primarily to the need to remain in compliance with environmental regulations while maintaining large regional infrastructure that is subject to extreme weather events and climate vulnerabilities. That being said, the authority has remained in compliance with its water quality and discharge permit requirements for some time; for example, all of its long-term combined sewer overflow control plan projects were completed in 2015 and its water withdrawal permit continues to be renewed on an ongoing basis. MWRA has completed most of the major projects in its CIP, including the Deer Island Harbor wastewater treatment plant, the MetroWest water supply tunnel, and the John J. Carroll water treatment plant. The maximum CIP spending for MWRA's current 2019-2023 CIP was \$884 million, and management is planning on a 2024-2028 cap that could exceed \$1.2 billion depending on the trajectory of inflation and contingency; management has represented that actual CIP spend has typically averaged about 75% of its cap.

While the Boston MSA experienced significant short-term economic effects due to the recession caused by COVID-19, the U.S. Bureau of Labor Statistics (BLS) reports that the Boston-Cambridge-Nashua New England City and Town Area (NECTA) unemployment rate is down from a peak of 16.9% in 2020 (about double what it had been at the height of the previous two peaks in both 1992 and 2010) to 3.6% in January 2023. We believe that MWRA's rate structure is a significant mitigant to credit risk brought about by these types of economic events because the authority's rates and charges are adopted annually and due from each local body in 10 equal monthly installments (excluding January and July). Assessments are essentially based on proportional flow or use and can be changed as needed through board approval. If a local body hadn't made these assessment payments when due, then MWRA's enabling act requires the authority to notify the state treasurer within 30 days, in which case the state treasurer pays to MWRA any amounts due from state aid otherwise payable to the local body. In addition, in an extreme case of a shortfall lasting 18 months, then MWRA's general bond resolution also allows it to assess other local bodies to make up the shortfall.

We believe that the most significant governance risks relate to management being able to continue generating overall positive variances on its current expense budget in light of the revenue stream that is largely designed to have a 100% collection rate. Several tangible effects these positive variances produce are lower future revenue requirements, debt defeasances, and additional revenues available for capital projects. Management will also need to continue its outreach efforts with the local bodies served by MWRA so that, as additional rate increases are approved, the MWRA Advisory Board's advocacy for the authority's programs from the perspective of ratepayers remains aligned with management's

overall goals.

Outlook

The stable outlook reflects S&P Global Ratings' view of the authority's financial position, as well as management's demonstrated willingness to increase rates. We expect that the authority will maintain financial metrics consistent with historical trends and will also continue to benefit from the diversity of the underlying economic base.

Downside scenario

If the authority can't maintain its financial stability supported by consistent rate increases or if the local units begin to experience difficulty paying their annual assessments, we could lower our rating on the bonds. However, given management's demonstrated willingness to implement rate increases and the broad and diverse economic base, we currently do not believe that MWRA's creditworthiness will be pressured in these ways in the next two years as long as management is able to manage its operating and fixed costs in a manner consistent with historical trends. To this end, if the current recessionary and inflationary pressures were to become pronounced and lead to a heightened inability to raise rates due to regional affordability concerns, the rating could be lowered.

Upside scenario

We could raise the rating if MWRA consistently returned significantly stronger unrestricted liquidity and annual all-in coverage metrics.

Credit Opinion

Credit strengths focused on breadth of service territory and financial stability

MWRA is a regional, wholesale water and sewer services provider for about 45% of Massachusetts' population (about 3 million), including Boston and its MSA. The authority has statutory authority to serve 62 communities and currently serves 61. The Boston Water and Sewer Commission makes up about 30% of the authority's overall rates and charges revenue, which, in our view, lends stability to the rating on the MWRA bonds, given our 'AAA/Stable' rating on the commission's bonds.

Since 2015, combined water and sewer rates have risen from 3% to 4% annually, although significantly lower at 1% for fiscal 2021 to provide for some rate relief for local bodies. Current projections indicate that after the 2023 fiscal year, future increases will be consistent with historical trends.

Financial operations have remained at least adequate, in our view. At the end of fiscal 2022 (June 30), net revenues provided all-in DSC (including senior-lien, subordinate-lien, and other fixed-charge obligations and capital leases and obligations paid to the Massachusetts Clean Water Trust) of 1.2x, a level we consider good. Net revenues have been calculated to include rates, charges, and interest earnings, but exclude transfers related to the rate stabilization fund. In addition, net revenues have been increased by noncash other postemployment benefit expenses and subordinated commonwealth payments. At fiscal year-end 2022, the authority's unrestricted current cash and investments were \$77 million. When adding a rate stabilization fund balance of \$40 million, total days' cash is 163.

These levels of coverage and unrestricted cash have been consistent with those of previous years, and management has indicated that, over the next several years, these financial metrics will not deviate significantly from the historical trends.

Debt service is the largest component of the budget, accounting for about 60% of audited operating and debt service expenses; while these figures are elevated, in our opinion, wholesale systems tend to have relatively high debt levels compared to retail systems and present less of a credit concern to us. For the variable-rate portion of its portfolio, MWRA currently budgets for a 4.25% average interest cost, which is well above the actual rate of about 2.66%, as indicated by management.

Swap and variable-rate exposure mitigated through active management and contractual terms

Unhedged variable-rate debt represents just 6% of the authority's portfolio (\$269 million). Another 4% is hedged through various swap agreements. The total notional value of the swaps is \$166 million; their fair value was negative \$33 million (with respect to MWRA) as of Feb. 24, 2023, and all swaps are floating-to-fixed. Counterparties include Barclays Bank PLC; Wells Fargo Bank N.A.; Citigroup Financial Products, with a credit support guarantee from Citigroup Inc.; and Morgan Stanley Capital Services, with a credit support guarantee from Morgan Stanley. All documents list a 'BBB+' rating trigger as an additional credit event for the counterparties. There is an additional credit event if the rating on the authority goes down to 'BBB+', which we see as remote due to its strong 'AA+' credit profile. The authority has also adopted a debt derivative policy and has incorporated this into its general debt policy. In addition, management has reported that it actively manages and reviews its swap agreements. Due to the low degree of termination risk, we did not factor in the swaps' value-at-risk as a contingent liability for the authority.

Given MWRA's large swap and variable-rate portfolio, if termination triggers are implemented on the swaps or failed remarketings on any variable-rate bonds occur, these could also lead to fiscal stress, in our view. However, it is our understanding that most of the additional interest costs in the case of a failed remarketing would only occur after 90 days; we believe this provides the authority sufficient time to examine its financial options. Regarding the swaps, an additional termination event occurs if our ratings on the counterparties or MWRA bonds drop to 'BBB+' or lower. We view a drop of the rating on MWRA bonds to this level as remote, and if any counterparty rating should do so, a collateral posting or replacement counterparty would need to be furnished.

MWRA also has outstanding direct-purchase bonds issued in 2012, 2014, and 2018 with counterparties including Citibank N.A. (series 2012E), Eastern Bank (series 2012G), Bank of N.A. (series 2014A), TD Bank N.A. (2018A), and US Bank (series 2018D). The security on all of MWRA's direct-purchase bonds is a subordinate-lien net revenue pledge. While we do not consider the existence of the direct-purchase bonds as introducing additional contingent liquidity risk at this time, our view on several provisions of these agreements is as follows:

- If an unsuccessful remarketing occurs, there is a term-out period of three years for any unremarketed bonds still outstanding. The term-out period starts at least six months after the date of any unsuccessful remarketing, which, in our view, provides an adequate period to achieve market access and refund the unremarketed bonds, if the authority believes it financially necessary to do this to avoid large debt service cost increases.
- A mandatory tender provision exists in all the supplemental indentures for any bonds outstanding on the agreement expiration date. It is our understanding that the timing of these agreement expirations is part of MWRA's larger variable-rate and counterparty management strategy. Management has ongoing experience renewing and extending

liquidity and credit agreements, and expiring credit, liquidity, or direct-purchase agreements in any given year represent no more than 36% (in both 2024 and 2025) of the notional value of MWRA's total variable-rate portfolio in any given year. We expect the authority to continue managing the expiration of its various liquidity, credit, and direct-purchase agreements to avoid liquidity calls due to agreement expiration, as it has in the past.

- Occurrence of various events of default could lead to acceleration of direct-purchase bonds. While a payment
 default on the related refunding bonds, parity bonds, or other MWRA debt could cause an immediate or seven-day
 acceleration under all the purchase agreements, we view this acceleration risk as credit risk already incorporated
 into our long-term credit rating. However, acceleration caused by a covenant default (which includes various
 reporting and other requirements pursuant to the purchase agreements or related transaction documents) only
 occurs after an uncured period of 180 days. We believe that if acceleration occurs due to a covenant default, this
 180-day period would be adequate for MWRA to achieve market access and refund the bonds subject to
 acceleration, or achieve some other resolution to avoid acceleration.
- If our rating on MWRA's 2012E bonds falls below 'A-', the Citibank agreement allows for a 180-day cure period, similar to the other agreements. Since the rating on these bonds is more than two notches above the rating trigger, we do not consider the debt an immediate contingent liability under our contingent liability criteria.

MWRA also has a \$100 million revolving credit agreement with Bank of America N.A. that management has indicated it uses as a commercial paper program. We mention this agreement separately from the authority's other direct-purchase agreements because of the existence of several events of default provisions that we view as permissive. These include various material adverse clauses, no cure periods for covenant defaults, and cross-default provisions. An additional event of default is a downgrade below 'A-' or equivalent. If any of these events are triggered, there could be significant, downward pressure on the rating if MWRA does not maintain its market access to make full and timely payment on any accelerated amounts due under this agreement. The existence of these provisions is not currently having an effect on the rating since we view the likelihood of these nonpayment events of default occurring to be equal to the likelihood of a two-notch downgrade, which would still not result in a rating below the rating trigger on this agreement.

Related Research

Through The ESG Lens 3.0: The Intersection Of ESG Credit Factors And U.S. Public Finance Credit Factors, March 2, 2022

Ratings Detail (As Of March 24, 2023)				
Massachusetts Wtr Resources Auth multi modal subord gen rev				
Long Term Rating	AAA/A-1+	Affirmed		
Unenhanced Rating	AA(SPUR)/Stable	Affirmed		
Massachusetts Wtr Resources Auth multi modal subord gen rev				
Long Term Rating	AA/Stable	Affirmed		
Massachusetts Wtr Resources Auth multi modal subord gen rev				
Long Term Rating	AA/A-1/Stable	Affirmed		
Massachusetts Wtr Resources Auth multi-modal subord gen rev				
Long Term Rating	AA/A-1/Stable	Affirmed		

Ratings Detail (As Of March 24, 2023) (cont.)				
Massachusetts Wtr Resources Auth multi-modal subord gen rev				
Long Term Rating	AA/A-1/Stable	Affirmed		
Massachusetts Wtr Resources Auth WTRSWR				
Long Term Rating	AA/A-1/Stable	Affirmed		
Massachusetts Wtr Resources Auth WTRSWR				
Long Term Rating	AA/Stable	Affirmed		
Massachusetts Wtr Resources Auth WTRSWR				
Long Term Rating	AA/Stable	Affirmed		
Massachusetts Wtr Resources Auth WTRSWR				
Long Term Rating	AA/Stable	Affirmed		
Massachusetts Wtr Resources Auth WTRSWR (AGM)				
Unenhanced Rating	AA+(SPUR)/Stable	Affirmed		
Massachusetts Wtr Resources Auth WTRSWR (AMBAC)				
Unenhanced Rating	AA+(SPUR)/Stable	Affirmed		
Massachusetts Wtr Resources Auth WTRSWR (MBIA) (National)				
Unenhanced Rating	AA+(SPUR)/Stable	Affirmed		
Many issues are enhanced by bond insurance.				

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