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Massachusetts Water Resources Authority Retirement System; Water/Sewer

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Credit Profile

Massachusetts Wtr Res Auth Retirement Sys ICR

Long Term Rating

AAA/Stable

Affirmed

Rationale

Standard & Poor's Ratings Services affirmed its 'AAA' issuer credit rating (ICR), with a stable outlook, on Massachusetts Water Resources Authority Retirement System.

The ICR is supported by what we view as the following credit characteristics:

- The creditworthiness of the retirement system's sponsor, the Massachusetts Water Resources Authority (MWRA; senior-lien revenue bond rating: AA+/Stable);
- The retirement system's independent nature from the MWRA;
- Very strong funded levels as of the most recent actuarial valuation date; and
- Annual pension contributions by MWRA in recent years above actuarially required levels.

The MWRA was created by enabling legislation in January 1985, and provides wholesale water and wastewater service to 61 communities, concentrated mostly in eastern Massachusetts and the greater Boston metropolitan statistical area (MSA). We rate MWRA's senior-lien revenue bonds 'AA+' based on our view of the authority's large and diverse service base that serves the Boston MSA, rate-setting autonomy and strong collection rate, sound underlying member credit quality, generally good financial performance, low-risk interest rate swap portfolio, manageable capital improvement program, and adequate bond provisions.

The MWRA Retirement System is a single-employer system effective since 1985 as a contributory, defined-benefit plan, and participation is mandatory for all of MWRA's eligible permanent full-time employees. We believe the retirement system's governing statutes and memorandum of understanding with the MWRA provide a good degree of independence. The retirement board has five members.

The MWRA Retirement System conducts a full actuarial valuation every two years. The most recent one, as of Jan. 1, 2015, showed an improvement in the actuarial funded ratio to what we view as a very strong 98.3%, compared with 88.6% as of Jan. 1, 2013. The improvement to a nearly fully funded system was the result of several factors, including contributions from MWRA above the annual actuarially determined contribution for each of the most recent four years, as well as a change in actuarially assumed employee retirement rates based on an experience study that prompted the system to reduce assumed retirement rates by 25%. This was balanced against a reduction in the actuarially assumed rate of investment return to 7.75% from 8.00%. Using a market value of investments, the system was slightly more than fully funded at 100.2% as of Jan. 1, 2015, an improvement from 91.0% in 2013.

Other key actuarial assumptions include an asset smoothing that adjusts for the difference between actual investment

returns and the actuarially expected rate of return over a five-year period, but not allowed to differ from the market value of assets by more than 10%. The market rate of return on pension assets was 4.44% in calendar 2014, 15.96% in 2013, and 12.35% in 2012. The five-year market rate of return was 9.13%. Other actuarial assumptions include various yearly salary increases ranging from 4.25%-6.00% depending on years of service (lower than the previous actuarial valuation), inflation at 4.00% per year, and 3.00% for cost-of-living adjustments (COLAs), with COLAs limited to no more than \$12,000 per year. The retirement board has adopted a funding schedule to fully fund the system on an actuarial basis by 2024.

Members of the retirement system become fully vested after 10 years of employment. Retirement system benefits consist of an annuity and a pension, which are two distinct funds within the system's financial structure. The number of employees within the system has been relatively stable--the active members in the retirement system declined to 1,090, as of Jan. 1, 2015, down slightly from 1,108 in 2010. The number of retirees receiving benefits as of 2015 was 476.

The MWRA retirement system is eligible to be rated above the sovereign because we believe the MWRA retirement system can maintain better credit characteristics than the U.S. in a stress scenario. Under our criteria "

Ratings Above The Sovereign: Corporate And Government Ratings—Methodology And Assumptions (published Nov. 19, 2013, on RatingsDirect)", MWRA and the MWRA retirement system are considered to have moderate sensitivity to country risk. Investments owned by the MWRA retirement system and contributions from MWRA, derived from locally imposed water fees, are the sole source of security on the bonds; the institutional framework in the U.S. is predictable, with significant state and local autonomy, and flexibility is demonstrated by high pension funded ratios, as well as independent investment management.

(For more information on MWRA's general water and sewer revenue bonds, see the rationale published April 15, 2015, on RatingsDirect.)

Outlook

The stable outlook on the retirement system reflects the very strong funded level of the MWRA retirement system both on an actuarial and market funded basis, a history of annual contributions from MWRA (as pension fund sponsor) that have been above the actuarially determined level, and the legal obligation of MWRA to fund the full annual actuarially determined contribution. Our rating anticipates that the funded ratio will remain very strong during our two-year outlook horizon. Our pension fund criteria also limits a pension fund rating to no more than one full category above the rating on the pension fund sponsor. To the extent that we lowered the bond rating on MWRA's revenue bonds to 'A+' or lower, we could lower the rating or revise the outlook on the MWRA Retirement System.

MWRA (Pension Fund Sponsor) Credit Quality

The MWRA's senior-lien revenue bonds have an underlying senior-lien bond rating of 'AA+' with a stable outlook.

The MWRA revenue bond rating reflects what we view as:

- Large and diverse service base that serves the Boston MSA;
- Rate-setting autonomy combined with a historical 100% collection rate, rates and charges considered general obligations of the served communities, and a state aid intercept mechanism;
- Revenue stream that largely depends on the Boston Water and Sewer Commission (revenue bonds rated 'AA+/Stable'), which adds fiscal stability;
- Generally good financial performance when considering unrestricted liquidity and coverage of total debt service costs with annual net operating revenues;
- Low-risk swap portfolio given the counterparty diversification and the wide gap between the rating on MWRA's bonds and the 'BBB+' trigger that would cause an additional credit event;
- Manageable capital improvement program given the size of the system; and
- Adequate bond provisions following modifications to the general bond resolution, including a senior-lien debt service coverage ratio of 1.2x.

The MWRA is a regional, wholesale water and sewer services provider for slightly more than 40% of Massachusetts' population (about 2.9 million), including Boston and its MSA. The authority has statutory authority to serve 61 communities. The Boston Water and Sewer Commission comprises about 30% of the authority's overall rates and charges revenue, which, in our view, lends stability to the rating on MWRA bonds, given the 'AA+/Stable' rating on the commission's bonds.

Pension Fund Background And Independence

The MWRA Retirement System, effective July 1, 1985, is a contributory, defined-benefit plan, and participation is mandatory for all of the MWRA's eligible permanent full-time employees. Chapter 32 of Massachusetts General Laws, which establish benefits, contribution requirements, and an accounting and funds structure for the fund, ultimately governs the retirement system. The independent five-member retirement system board consists of one ex-officio individual (the secretary of the MWRA), one MWRA appointee (with a three-year term), two members who are elected by MWRA employees (each with three-year terms), and a fifth member (with a three-year term) who is elected by the four other board members and who cannot be an employee, retiree, or government unit official. Board members serve staggered terms.

Under a 1997 memorandum of understanding between the retirement system and the MWRA, the retirement system is recognized as separate and distinct from the MWRA, with separate and distinct assets, liabilities, and fiduciary obligations. The memorandum explicitly outlines the retirement system's responsibilities and segregated functions. The MWRA Retirement System has three permanent staff members, and relies on advisors and independent investment fund managers to accomplish much of its responsibilities. At the end of fiscal 2014, the retirement system had 29 independent fund managers (including investments managed by the state of Massachusetts), four securities fraud monitoring consultants, the Segal Group as independent actuaries, an independent auditor, a legal advisor, and NEPC, LLC as pension consultant. The retirement system board meets monthly and reviews investment performance and asset allocation targets annually. The board has an extensive written investment policy that its consultants use to monitor investment manager performance and compliance. A full actuarial valuation is performed every two years. Although the retirement system is independent, the authority provides employer contributions. In recent years, the MWRA has contributed more than its annual legal requirements. In fiscal 2014, it contributed 162% of its actuarially

determined contribution.

The Commonwealth's Public Employee Retirement Administration Commission (PERAC) provides additional oversight and guidance to the retirement system. The legally required contributions to fund the system are determined by the actuary and the retirement system board, with additional approval by PERAC. According to existing laws, contributions made to the retirement system by the MWRA shall cease to be funds of the MWRA, and must be used exclusively for the purposes of the retirement system. The retirement system has indicated that contributions above the actuarially determined contribution are considered by MWRA on a year-to-year basis to advance full funding of its unfunded pension liability, depending on MWRA's availability of funds. Contributions to the retirement system are considered operating costs of MWRA.

Pension Fund Investments

The MWRA Retirement system's current investment allocation targets are: 20% U.S. equities (actual 22% at June 30, 2015), 17% non-U.S. equities (16%), 22% fixed income (22%), 16% global asset allocation (16%), 9% private equity (7%), 9% hedge funds/absolute return (9%), 7% real estate (7%), 0% cash (1%).

The retirement system has no debt, but has entered into capital call agreements in connection with various private equity and real estate investments. These agreements commit the system to providing investment capital on a periodic basis. As of March 31, 2015, the retirement system had private equity capital commitments yet to be fund of \$16.6 million spread over 26 remaining separate investment partnerships, and real estate unfunded capital calls of \$1.5 million spread over four remaining partnerships. We believe these amounts to be modest in relation to the \$444.6 million of total investments assets held by the system at Dec. 31, 2014.

Massachusetts Water Resources Authority Retirement System Schedule of Funding Progress

(\$000s)	--Actuarial valuation as of Jan. 1--				
	2015	2014	2013	2012	2011
Actuarial value of assets	435,841	391,063	341,515	315,582	299,331
Actuarial accrued liability	443,487	434,844	385,296	356,779	341,521
Unfunded actuarial accrued liability	7,646	37,721	43,781	41,197	42,190
Funded ratio (%)	98.3	89.9	88.6	88.5	87.6

Related Criteria And Research

Related Criteria

- Ratings Above The Sovereign: Corporate And Government Ratings—Methodology And Assumptions, Nov. 19, 2013
- Criteria: Use of CreditWatch And Outlooks, Sept. 14, 2009
- USPF Criteria: Public Pension Funds, June 27, 2007

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