

CREDIT OPINION

4 November 2016

New Issue

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Cincinnati (City of) OH Water Enterprise

New Issue: Moody's Assigns Aaa to Cincinnati, OH's Water System Revenue Bonds

Summary Rating Rationale

Moody's Investors Services has assigned a Aaa rating to the City of Cincinnati, OH's \$25 million Water System Revenue Bonds Series 2016A, \$103.5 million Water System Refunding Revenue Bonds Series 2016B and \$65.9 million Water System Refunding Revenue Bonds Series 2016C. Moody's maintains a Aaa rating on the city's outstanding senior lien water system revenue bonds and a Aa1 rating on the city's outstanding senior subordinated water system revenue bonds. The outlook on the water system is stable.

The Aaa rating on senior lien revenue debt reflects the enterprise's very large and diverse service area in southwest Ohio (Aa1 stable) and northern Kentucky (Aa2 stable), very healthy liquidity, unlimited rate setting authority, and strong capital planning. The rating also incorporates sound but comparatively narrow debt service coverage and average leverage. The Aa1 senior subordinated rating is notched once from the senior lien rating based on the subordinate pledge of net revenue.

Credit Strengths

- » Very large service area that extends well beyond the City of Cincinnati (Aa2 stable) to include suburban communities in both southwest Ohio and northern Kentucky via retail and wholesale agreements
- » Well managed financial operations supported by the Cincinnati City Council's authority and demonstrated willingness to adjust rates in order to maintain sound debt service coverage and healthy liquidity
- » Strong capital planning processes and full compliance with all current environmental regulations that will keep the system's leverage manageable
- » Significant margin of available pumping capacity that limits system stress and supports management's plan to seek additional commercial opportunities through service area expansion

Credit Challenges

- » Water consumption declines over recent years due in part to weak economic trends in portions of the service area, as well as overall conservation trends across the customer base

- » Debt service coverage ratios are modest for the rating category and provide a more limited margin relative to other highly rated entities should the system realize unforeseen declines in operating revenue

Rating Outlook

The stable outlook reflects our opinion that the very large service area of the utility as well as management's flexibility to adjust rates will continue to support net revenue generation that keeps debt service coverage at sound levels and the system's cash position in a healthy state.

Factors that Could Lead to an Upgrade

- » Not applicable

Factors that Could Lead to a Downgrade

- » Increased leverage of net water revenue
- » Insufficient adjustments to water rates that negatively impact debt service coverage and liquidity

Key Indicators

Exhibit 1

Cincinnati (City of) OH Water Enterprise

System Characteristics

Asset Condition (Net Fixed Assets / Annual Depreciation) 45 years

System Size - O&M (in \$000s) 71,352

Service Area Wealth: MFI % of US median 100.8%

Legal Provisions

Rate Covenant (x) 1.15

Debt Service Reserve Requirement DSRF funded at MADS

Financial Strength

	2011	2012	2013	2014	2015
Operating Revenue (\$000)	120,682	135,384	68,947	142,316	142,085
O&M (\$000)	78,201	75,830	41,940	81,769	71,352
Long-Term Debt (\$000)	483,394	540,710	552,379	538,379	519,949
Annual Debt Service Coverage (x)	1.20	1.43	2.86	1.35	1.45
Cash on Hand	320 days	375 days	675 days	445 days	448 days
Debt to Operating Revenues (x)	4.0x	4.0x	8.0x	3.8x	3.7x

Note: The table includes audited data through fiscal 2015. Post sale, the enterprise will have \$512 million in outstanding senior and junior lien revenue debt, equal to 3.6 times fiscal 2015 operating revenues. 2013 is a shortened year not directly comparable to other years due to a change in fiscal year.

Source: Audited Financial Statements, Moody's Investors Service and U.S. Census Bureau

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Detailed Rating Considerations

Service Area and System Characteristics: Large and Diverse Service Area Includes Cincinnati and Surrounding Suburban Communities

The city's water enterprise, a component unit doing business as Greater Cincinnati Water Works (GCWW), treats and distributes water, primarily sourced from the Ohio River, to over 1 million city and suburban residents in southwest Ohio and northern Kentucky. The GCWW serves nearly all of Hamilton County (Aa2 stable) including both incorporated and unincorporated communities. The system also has retail and wholesale agreements with Butler County (Aa1 stable), Warren County (Aa1), a number of suburban cities such as Mason (Aaa), Norwood and Lebanon (Aa2), and the Boone/Florence Water Commission in Boone County, KY (Aa1). A number of these agreements (74% retail and 26% wholesale by consumption) extend through 2025 or beyond, while the agreement to serve unincorporated Hamilton County expires in 2017. We anticipate these agreements will be renewed upon expiration due to the lack of service competition and the GCWW's 30-year history of serving these areas of the county.

A combination of regional economic challenges and system-wide water conservation trends resulted in a cumulative 20% drop in service area water consumption from 2007 through 2016. The largest retail customer of the GCWW is the Cognis Corporation, which accounted for 1.5% of consumption and 1% of billed charges in fiscal 2016. The ten largest retail customers combined make up a modest 6.1% of consumption and 3.9% of billed charges. The largest wholesale customer is the Boone/Florence Water Commission in Kentucky, which made up 10.7% of 2016 consumption. The GCWW continues to pursue new wholesale opportunities, which include expanding wholesale service in Warren County, OH and Boone County, KY.

Debt Service Coverage and Liquidity: Utility Likely to Maintain Sound Debt Service Coverage and Healthy Liquidity

We expect stable to improving annual financial metrics given moderate borrowing needs and city council's authority and willingness to annually increase rates as needed. Pro forma projections indicate gradual growth in annual coverage of total debt service (combined senior lien and state loans) to 1.77 times in fiscal 2021 from 1.66 times in fiscal 2016. The projections build in new debt service costs tied to anticipated bond sales in 2017, 2019 and 2021. They also assume an average decrease in consumption of 0.98% from 2017 through 2019 before leveling off in 2020 and inflationary expenditure increases in personnel (5%), non-personnel (1.1%), health care (5%) and other fringe costs (2%). The projected decrease in consumption is driven by an increase in efficiencies in customer water use. Projections also include 3.75% annual rate increases through 2021 as approved by city council. Management projects gross revenue to increase a total of 14% over fiscal 2016 revenues by fiscal 2021.

This revenue growth assumption is lower than recent experience of 16% revenue growth between fiscal 2015 and 2011, which is reasonable, given more substantial average annual rate increases of 6% during the historical period, which was also coupled with declining usage.

LIQUIDITY

The GCWW closed fiscal 2015 with \$88 million of unrestricted cash, equivalent to a very strong 448 days of operating and maintenance expenses (O&M), which is a significant improvement from cash reserves of \$72 million, or 284 days cash in fiscal 2010. The system's financial policies include a minimum 200 days of O&M retained in unrestricted liquidity. Projections indicate the system's year-end cash balance will increase to further to over \$130 million by fiscal 2021.

Debt and Legal Covenants

Inclusive of the current debt, the combined balance of senior lien revenue bonds and outstanding state loans is \$513 million, or a 3.6 times fiscal 2015 revenue. Going forward, the utility anticipates that the capital program will be funded with 57% cash and 43% debt. The city plans to issue new debt every other year, currently planned at \$70 million in fiscal 2019 and \$120 million in fiscal 2021. Planned capital spending predominantly focuses on water distribution system as treatment capabilities are up to date and provide sufficient capacity. The capital plan has also recently been updated with a lead service line replacement program. The utility is currently in compliance with all requirements and, while changes to federal standards are being considered, management believes its planned improvements will satisfy any potential changes that may be implemented.

DEBT STRUCTURE

All outstanding water revenue debt consists of fixed rate, long-term amortizing bonds. The rate covenant associated with senior lien bonds requires the city to charge rates sufficient to generate net revenues equivalent to at least 115% of annual senior lien debt service.

Rates must also generate revenue to meet 100% of total debt service needs, inclusive of any subordinate lien bonds or state loans. The trust indenture governing the senior lien requires debt service reserve fund (DSRF) sized at maximum annual debt service for all series of senior lien debt.

DEBT-RELATED DERIVATIVES

There are no outstanding derivatives associated with Cincinnati's water revenue debt.

PENSIONS AND OPEB

Most employees of the GCWW are members of the Cincinnati Retirement System (CRS), while a small number are members of the Ohio Public Employees Retirement System (OPERS). Cincinnati's contributions to CRS consistently fell short of actuarially based payments, elevating that plan's reported unfunded liability. On May 7, 2015, the city executed a collaborative settlement agreement with CRS retirees and employees. Per a consent decree agreed to by the parties, the settlement is administered and enforced by the US District Court for the Southern District of Ohio, which approved the settlement agreement on October 5, 2015.

The settlement makes notable changes to the benefit structure of CRS by replacing the current 3% compounded cost-of-living adjustment (COLA) with a simple 3% COLA that is suspended for the first three years of retirement. These benefit amendments apply to current and future retirees. The agreement also included the transfer of \$237 million from the city's OPEB trust to the CRS pension trust and directed the city to finance an early retirement incentive plan (ERIP) liability with judgment bonds that were issued in December 2015. On a reported basis, the benefit reforms and asset transfer decreased the CRS unfunded actuarial accrued liability to \$504 million from \$806 million.

The settlement agreement requires the city to pay annually a constant 16.25% of covered payroll into the CRS pension plan. This payment rate will remain in place regardless of plan performance, though the parties may reopen the settlement should certain conditions be met. The reported unfunded liability of CRS must be retired within 30 years. If the plan fails to achieve 7.5% investment return assumptions, the 16.25% contributions may not meet the target of fully funding the system within 30 years and additional adjustments may need to be made. The city has the flexibility to reopen the settlement agreement in case of such underperformance. Failure to address a growing unfunded CRS liability through further benefit modifications or increased funding commitments would pressure the city's credit profile.

In fiscal 2015, the GCWW paid approximately \$6 million to CRS and \$260,000 to OPERS, with the combined payment equal to 4% of revenue. Incorporating the impact of the CRS settlement agreement, the utility's ANPL totals \$240 million, or 1.7 times fiscal 2014 revenue.

Along with pension adjustments, the CRS settlement agreement includes provisions that reduce the CRS retiree healthcare obligation. Prior to the adjustments, the city's OPEB liability was over funded on a reported basis. The changes in eligibility requirements and the asset transfer to CRS increased the city's CRS OPEB UAAL to \$10 million, from a reported overfunded position of \$116.

Management and Governance: Unlimited Rate Setting Authority; Full Compliance with Current Regulations

All rate increases require approval of the Cincinnati City Council, which is not subject to any oversight or restrictions. City council regularly reviews and adjusts water rates in order to maintain sound debt service coverage and healthy liquidity. With the exception of 2011, city council has increased rates every year since 2002 and most recently approved 3.75% annual rate increases through 2021.

Management has successfully kept the GCWW compliant with all state and federal environmental regulations. The system is a national leader for innovative water treatment technologies, having the nation's largest granular activated carbon treatment system and North America's largest UV light treatment facility since 2013. The system maintains a robust 15-year master CIP that is updated every five years to identify the most pressing capital needs of the distribution and treatment systems.

In addition to seeking further water service opportunities, management is also working to expand such activities as billing services. Leveraging its existing collection services system, the GCWW currently provides billing services, via contract, with communities such as Lexington, KY and Alexandria, VA. Billing services generated over \$6.6 million of revenue for the enterprise in fiscal 2015.

Legal Security

With the exception of the Series 2005B senior subordinated bonds and outstanding state loans, all of Cincinnati's outstanding water revenue bonds are secured by a senior lien on net revenues of the city's water system. The Series 2005B bonds are secured by a second lien on net revenues of the city's water enterprise.

Use of Proceeds

The 2016A bond proceeds will finance capital improvements while the 2016B and 2016C bonds will refund a portion of the utility's outstanding senior lien revenue bonds.

Obligor Profile

The Greater Cincinnati Water Works is a municipally owned and operated utility. The city and the majority of Hamilton County are served on a retail or metered account basis, while other communities are service on a wholesale basis. The city is responsible for the complete administration, operation, maintenance and capital planning for the entire service area. The utility now supplies approximately 43 billion gallons of water a year through 3,161 miles of water main to nearly 241,000 residential and commercial accounts representing over 1.1 million customers in the Greater Cincinnati area.

Methodology

The principal methodology used in this rating was US Municipal Utility Revenue Debt published in December 2014. Please see the Rating Methodologies page on www.moody.com for a copy of this methodology.

Ratings

Exhibit 2

Cincinnati (City of) OH Water Enterprise

Issue	Rating
Water System Revenue Bonds Series 2016A	Aaa
Rating Type	Underlying LT
Sale Amount	\$25,000,000
Expected Sale Date	11/09/2016
Rating Description	Revenue: Government Enterprise
Water System Refunding Revenue Bonds Series 2016B	Aaa
Rating Type	Underlying LT
Sale Amount	\$103,520,000
Expected Sale Date	11/09/2016
Rating Description	Revenue: Government Enterprise
Water System Refunding Revenue Bonds Series 2016C	Aaa
Rating Type	Underlying LT
Sale Amount	\$65,900,000
Expected Sale Date	11/09/2016
Rating Description	Revenue: Government Enterprise

Source: Moody's Investors Service

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