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New Issue

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American Municipal Power Inc.

New Issue: Moody's Upgrades American Municipal Power Inc. Combined Hydro Projects to A2 from A3; Outlook Stable

Summary Rating Rationale

Moody's Investors Service has assigned an A2 rating to the American Municipal Power (AMP) Inc. sale of $207 million Combined Hydroelectric Projects Revenue Bonds, Series 2016A (Green Bonds). Moody's also upgraded to A2 from A3 the rating on the outstanding $1,995,529,000 (Series 2009 B,C and Series 2010 A,B,C Revenue Bonds). The outlook is stable.

The bonds will finance final completion costs and also reimbursement to the AMP credit line, which provided interim financing for costs related to the construction of the three run-of-the-river hydroelectric facilities (8 units) along the Ohio River, Cannelton Project (88MW); Smithland Project (76MW); and Willow Island Project (44MW), with aggregate generating capacity of 208 MW and licensed by FERC to 2041, 2038 and 2039, respectively. Depending on market conditions, we understand that AMP may also sell refunding bonds.

The upgrade and A2 rating assignment reflects a reduction in construction risk with 5 of the 8 units of the Combined Hydroelectric Projects now in commercial operation, and the expectation that the three unit Smithland Hydro Project (76MW) to be in commercial operation by the first quarter of 2017. Construction delays at the Smithland Project owing to a mutual decision of contractor termination and flooding issues are now behind the project. AMP has brought its senior staff with significant hydro experience to work on the project to meet the commercial startup schedule in early 2017.

Other factors considered in the A2 rating include the A3 average weighted credit quality of the 79 municipal utility participants and the fact that no one participant has a dominant obligation. Seventy-three of the 79 participants individual obligations are for less than 3% of the total obligation which diversifies payment risk. Project participants have unconditional take-or-pay obligations to pay for a share of the project debt service and O&M regardless of whether the hydroelectric facilities operate. Also considered are the strong bond covenants including a 25% step-up provision and a fully funded maximum annual debt service reserve.

The commitments of AMP participants for the project represent partly their strong support for the long term economic and non-carbon value of the hydroelectricity generated. While Ohio does not have a renewable standard that is applicable to the AMP participants, the zero emissions on 208 MW is a positive consideration. The combined project is part of AMP's power resource diversity strategy to lessen the wholesale market exposure of the participating municipal utilities. AMP has a diversified owned generation mix with its participation in the Combined Hydroelectric Projects; the Prairie State coal-fired generation

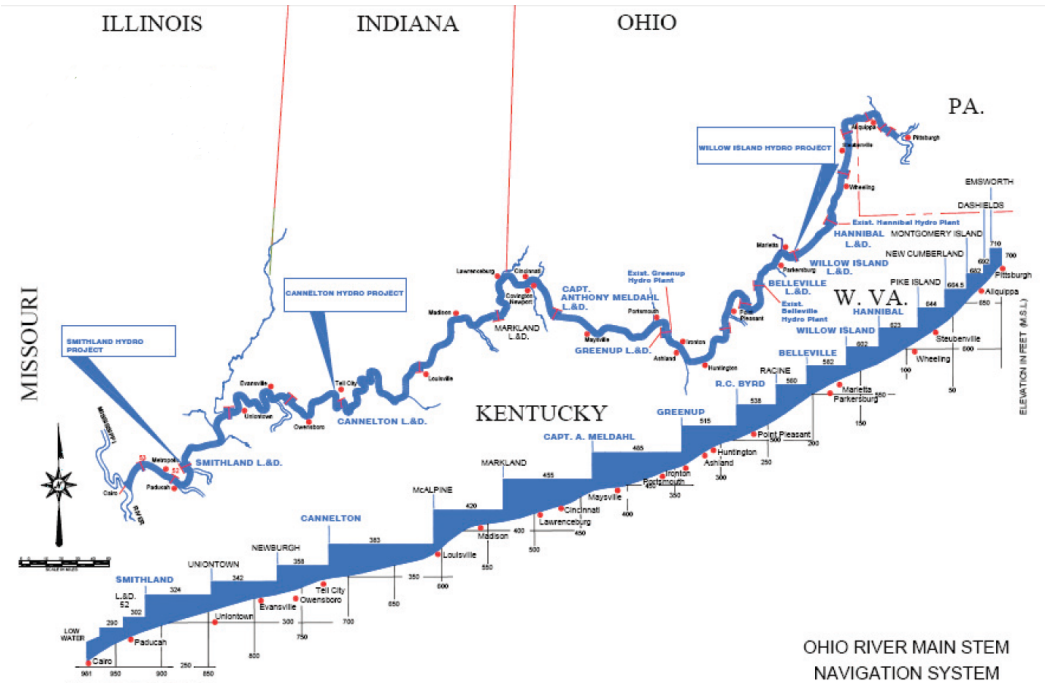
facility; the Fremont Energy Center natural gas fired units and the AMP-owned Belleville Hydro, the Greenup hydro acquisition and construction of the Meldahl Hydroelectric facility.

The rating assigned further considers the attributes of American Municipal Power, Inc.'s factored in its A1 Issuer Rating. Please see Presss Release date April 4th which affirmed the rating.

The rating recognizes that the levelized cost of energy and power of the Combined Hydroelectric Projects is high(in excess of $130/MWh) given the forecasted capacity factor. According to projections, the all-in cost is flat at least through 2038 due to level debt service and minor operating expense changes. While the all-in cost is high and above today's regional energy market price, the production cost per kwh compared to the regional energy price is very competitive. The rating acknowledges the long-term benefits to AMP participants as the hydro asset's useful life far exceeds the bond amortization schedule term providing long-term value to the members. Moreover, being a part of US Army Corps of Engineers Ohio River lock and dam system and its importance for commercial river transportation increases the likelihood of the system to maintain a 50% capacity factor, a key rating consideration.

Exhibit 1

Ohio River Navigational and Hydro System



Source: Sawvel & Associates

Credit Strengths

* Forecasted attainment of above a 50% capacity factor seems reasonable given the water flow record and requirement that water elevations be sufficient for commercial navigation.

*Hydroelectric generation will assist members to meet federal and state carbon standards

*Take-or-pay contract with municipalities with a weighted average credit quality of A3

*AMP has A1 issuer rating

*No participant's take-or-pay obligation will represent a dominant share of the project nor will any participant's share of the project be a significant portion of the participant's power supply mix

*The FERC licensed Hydroelectric projects provide a 50 year source of carbon neutral energy

*Competitive participant retail rates

*AMP has a well-regarded fiscal monitoring system to provide an ongoing assessment of member's financial position

Credit Challenges

*At over $10,000/KW the all-in-cost of the project is comparatively expensive

*US Army Corps of Engineers regulates water levels through lock and dam systems which subjects water levels to administrative action

*No assurances can be given that environmental regulation will remain the same

*No specific statutory provision for take-or-pay contracts in Kentucky-- about 4% of the project-state attorney has opined on contract validity

Rating Outlook

The rating outlook is stable given the hydro-electric facilities are at or near commercial operation. We also give recognition to the strong bond security provisions including the strong take-or-pay contract obligation of the 79 participants.

Factors that Could Lead to an Upgrade

» Credit position of the participants improves

» Economics of project and value of the non-carbon hydroelectric resource improve

Factors that Could Lead to a Downgrade

» Any significant project delay and if project costs rise to a level that participants consider unsupportable and then challenge their take-or-pay power supply contracts with AMP

» If the average weighted credit quality of participants should erode

Recent Developments

* AMP Issuer Rating was affirmed at A1 on April 4, 2016 -see Moody's update report.

*The Cannelton Project, the three unit 88MW hydro facility, came into commercial operation : First unit January 2016; second unit March 2016 and third unit June 2016.

*The Willow Island Project, the two unit 44MW facility, came into commercial operation: First unit January 2016 and second unit February 2016.

*AMP expects the two unit Smithland Hydro Project (76MW) to be in commercial operation by first quarter of 2017.

Detailed Rating Considerations

Revenue Generating Base

AMP HYDRO STRATEGY IS A PART OF ITS FUEL DIVERSIFICATION PLAN

As part of the AMP diversification strategy to reduce exposure of its members to the wholesale energy market, its 20-year strategic plan identified several run-of-the-river hydroelectric projects on the Ohio River as priority projects. The three optimal projects were the Cannelton, Smithland and Willow island projects.

The projects have an estimated 50-year useful life and are being constructed adjacent to locks and dams which should have 100 year useful life as maintained by the US Army Corps of Engineers. The key factor is these facilities are required to be maintained to ensure river navigation for commerce and for flood control. The Ohio River is a naturally shallow river that was artificially deepened by a series of dams. The dams raise the water level and have turned the river largely into a series of reservoirs, eliminating shallow stretches and allowing for commercial navigation.

The weighted average capacity factor of the three expected to be 55% which is compatible with the record over the past 20 years of the Greenup and Belleville hydros, also owned by AMP nearby on the Ohio River. The water levels are based on predicted rainfall in the Ohio River basin in the several state region.

The three Combined Hydro projects are:

The Cannelton Hydro Project (88MW), now in operation as of 2016, is located on the Kentucky shore of the Cannelton Locks and Dam on federal land. AMP has a FERC license for the project that expires May 31, 2041. The hydro project diverts water from the locks and dam through bulb turbines, which have a horizontal shaft and Kaplan-type turbines. The site includes an intake channel, a reinforced concrete powerhouse (to house turbine and 3 generator units), and a tailrace or downstream channel. .

The Willow Island Hydro Project, 44MW, now in operation, diverts water from the existing Willow Island Locks and Dam through bulb turbines. The FERC license for the Willow Project expires August 31, 2030. Average gross annual output is 279 million kwh. The powerhouse houses two horizontal 29.3 MW bulb type turbines and generating units.

The Smithland Hydro Project (76MW) is located 62.5 miles upstream of the confluence of the Ohio and Mississippi Rivers. The Smithland project has a FERC license that expires May 31, 2038. The powerhouse houses three horizontal 29.3 MW bulb type turbines and generating units. Average gross annual output is 379 million kwh.

AMP PLAYS KEY ROLE AS WHOLESALE POWER SUPPLER

The non-coincident peak demand of AMP's 133 members was 3,387 MW registered in 2015, 50% higher than in 2005. AMP electric revenues topped $1 billion for the first time in 2014. AMP provides wholesale power services to over 625,000 customers in the nine states. AMP's municipal utility members purchase non-project capacity and energy from AMP pursuant to take-and-pay contracts. There are 116 all-requirements participants. The contracts are not secured by the full faith and credit of the respective cities. AMP members by their choice also participate on a take-or-pay basis in AMP-sponsored projects including AMP's share of the Prairie State Project, the 1600 MW coal-fired generation plant; Freemont Energy Center the two-unit 675 MW natural gas fired facility and AMP new hydro facilities being built along the Ohio River. Members who chose to participate in these projects have long-term take-or-pay contracts and are obligated to pay for their allocated share of the O&M and debt service costs.

Rate competitiveness has been maintained with AMP members averaging retail rates in the 20% range lower than region's investor-owned utilities. It is noted that several AMP participants retail rates are higher than the regional average.

AMP historically has been a wholesale power supplier using market purchases to resell to its participants. AMP has 24 Master Service Agreements in place with counterparties that allow for energy trading. AMP has undertaken a significant shift in its power resource strategy from mostly market purchases to moving towards generation ownership

Operational and Financial Performance

FINANCIAL OPERATING AND POSITION

There are no financial operations for the Combined Hydroelectric Projects yet since the majority of the units just went commercial in 2016. Interest on the Series 2009 and 2010 bonds has been capitalized. No participant is in default on their take-or-pay contract. AMP has a financial monitoring program that evaluates audits and utility financial operations to ensure AMP monitors municipal participant financial health.

AMP has historically operated on a breakeven basis as a non-profit wholesale power supplier with the bulk of its energy resources from market purchases resold to its municipal utility participants. AMP's move to be an owner of generation with operating risks has required a significant increase in operating liquidity. While AMP has an unregulated authority to set its rates to recover its costs, financial liquidity to manage changes in fuel prices and meet other immediate impacts has increased in importance. AMP has taken several strong steps to mitigate the risks in the forecast period including adding increased bank lines and a five-year tenor with no MAC clauses. AMP entered into an agreement with The Energy Authority (an entity owned by several public power utilities that has energy market trading; fuel purchase and risk management skills useful to mitigate operating risks).

LIQUIDITY

AMP has a $750 million revolving line of credit with 8 banks. The line was effective January 10, 2012 with a current maturity date of January 10, 2020. The LOC has an accordion feature to expand the line to $1 billion. AMP also has authorization to issue $450 million of commercial paper notes(CP) . Previous projects were funded with CP and rated P-1 by Moody's. As of August 15, 2016, about $346.6 million is outstanding on the line.

Debt and Other Liabilities

All AMP Combined Hydro debt is fixed rate debt. The annual debt service schedule is level.

DEBT STATEMENT AND CAPITAL IMPROVEMENT PLAN

AMP has two series of bonds outstanding for the Combined Hydro Project including $666,435,000 of AMP Combined Hydroelectric Project Series 2009 A,B,C,D:; and $1,378,990,000 AMP Combined Hydroelectric Project Series 2010 A, B, C.

DEBT-RELATED DERIVATIVES

None

PENSIONS AND OPEB

No material credit risk related to the AMP Combined Hydro Project

Management and Governance

AMP was established pursuant to state statute (Ohio Revised Code Chapter 1702) as a non-profit corporation in 1971 to provide its members, which are municipal electric utilities, to provide for a reliable and competitive power supply. AMP is governed by a 20-member Board of Trustees made up of officials from 19 member municipalities and DEMEC, each of which appoints an official to represent it. AMP operates like a joint powers agency and most of its members have home rule charters which permit retail rates to be set by the local governing boards with no external regulation. The Ohio members have their authorization to enter into power sales contracts derived from the state constitution. AMP has obtained a determination letter and qualifies as a Section 501(c) 12 corporation and has a private letter ruling that in effect permits it to issue tax-exempt bonds. AMP has a master services agreement with all its members that provides a legal framework for the relationship of the municipal electric utility and AMP as it relates to power pools, energy products, power supply arrangements and individual services. The AMP members from the other states have specific state statutes that govern their authority and participation in power sales contracts and take-or-pay obligations.

Joint Action Agency-Take-or-Pay Methodology Scorecard Factors: Combined Hydroelectric Revenue Bonds

As indicated below, the grid indicated rating for AMP-Combined Hydro A2 , is in line with the new upgraded rating. The grid is a reference tool that can be used to approximate credit profiles in the joint action agency sector in most cases. However, the grid is a summary that does not include every rating consideration. Please see the Municipal Joint Action Agency Methodology for more information about the limitations inherent to grids.

Exhibit 2
Methodology Scorecard Factors

Rating Factors	
1 - Participant Credit Quality and Cost Recovery Framework	
a) Participant credit quality. Cost recovery structure and governance (45%)	A3
2 - Asset Quality	
a) Asset diversity, complexity and history (15%)	Baa
3 - Competitiveness	
a) Cost competitiveness relative to market (15%)	Baa
4 - Financial Strength and Liquidity	
a) Adjusted days liquidity on hand (3-year avg) (10%)	150 days
b) Debt ratio (3-year avg) (5%)	100%
c) Fixed obligation charge coverage ratio (3-year avg) (10%)	1x
Material Asset Event Risk	
Does agency have event risk?	No

Notching Factors	
1- Contractual Structure and Legal Environment	0.5 notch(es)
2- Construction Risk	-0.5 notch(es)
3- Offtaker Diversity	1.0 notch(es)
4- Financing Structure (rate convenant, DSR etc.)	0.0 notch(es)
5- Merchant/Other rating considerations	0.0 notch(es)

Output Summary	
Rating From Grid	A3
Indicated Rating from Grid	**A2**

Source: Moody's Investors Service

Legal Security

Under the Master Trust Indenture, AMP pledges its net revenues, derived from take-or-pay power sales contracts with municipal electric utility participants, payable monthly regardless of whether the project is completed, operating or operable. The take-or-pay contracts have a step-up provision. The master indenture includes a 1.10x rate covenant; 1.10x additional bonds test after commercial service; and a fully funded maximum annual debt service reserve. The participant payments are payable as an O&M expense of their respective electric systems.

Legal opinions have been issued that the take-or-pay contracts are valid and enforceable. On December 7, 2007, the Franklin County, Ohio Court of Common Pleas issued a non-appealable order validating the power sales contract relating to another hydroelectric project between AMP and the Ohio participants in that project, including the take-or-pay and step-up provisions. Several of the

participants are located in Michigan, Kentucky,West Virginia. and Virginia. Michigan, West Virginia and Virginia have passed specific legislation authorizing take-or-pay contracts, including step-up provisions with out-of-state corporations. Kentucky does not have specific statutory authority for electric plant boards to enter into long-term take-or-pay contracts but the Kentucky State Counsel has opined that KRS Chapter 96 provides sufficient authority for such contracts.

If there is a payment default of any participant, AMP has the power to suspend delivery, which in Moody's opinion creates a significant incentive for the municipal participant to pay given the essential nature of the service. Should such a default occur, AMP would first offer the power to other project participants, other AMP members, other entities that are not AMP members (to the extent that doing so won't impact the tax advantaged status of AMP and/or its bonds) and then exercise the 25% step-up provision that requires non-defaulting participants to be legally responsible for any defaulted costs for up to 25% of their original entitlement. Payment compliance is aided by a credit monitoring program that AMP manages which produces early warning signs should a member be in fiscal distress. This includes monthly evaluations of participant credit by monitoring a credit scorecard that includes financial met

Use of Proceeds

Proceeds will fund the completion costs of the construction of the hydro facilities on Ohio River; repay draws on the AMP line of credit and fund the debt service reserve. Depending on market conditions, we understand that AMP may also sell refunding bonds.

Obligor Profile

AMP operates like a joint powers agency and most of its members have home rule charters which permit retail rates to be set by the local governing boards with no external regulation. The Combined Hydroelectric Projects is a generation project secured by take-or-pay contracts with 79 member participants.

Methodology

The principal methodology used in this rating was US Municipal Joint Action Agencies published in October 2012. Please see the Ratings Methodologies page on www.moodys.com for a copy of this methodology.

Ratings

Exhibit 3

AMP, Inc - Combined Hydroelec. Proj.

Issue	Rating
Combined Hydroelectric Projects Revenue Bonds, Series 2016A (Green Bonds)	A2
Rating Type	Underlying LT
Sale Amount	$207,000,000
Expected Sale Date	09/05/2016
Rating Description	General Obligation and Revenue

Source: Moody's Investors Service

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