MOODY'S INVESTORS SERVICE

CREDIT OPINION
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New Issue

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Bonneville Power Administration (BPA), OR

New Issue: Moody's assigns Aa1 to BPA's Series 2016-2 bonds issued through the Port of Morrow (OR); Outlook is stable.

Summary Rating Rationale

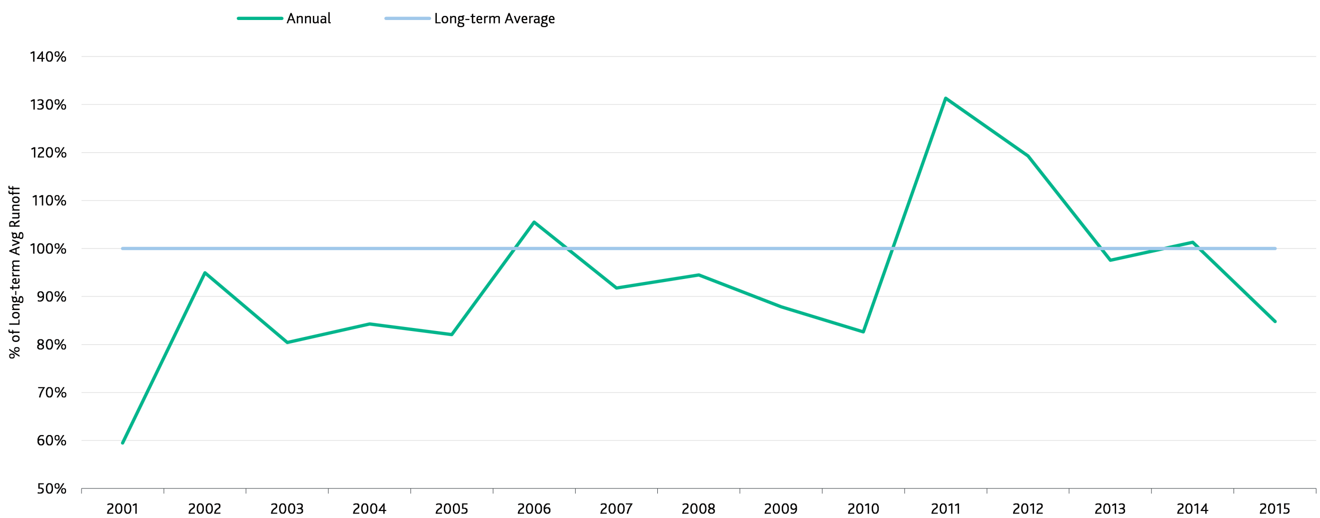
Moody's Investors Service has assigned Aa1 ratings to Port of Morrow's (OR) $125 million Transmission Facilities Revenue Bonds (Bonneville Cooperation Project No. 5) Series 2016-2 (Federally Taxable). The rating outlook is stable.

The Aa1 rating on Port of Morrow's transmission bonds reflects Bonneville Power Administration (OR)'s (BPA, Aa1/stable) unconditional lease payment obligation directly to the bond trustee, BPA's long history of meeting its contractual obligations, and BPA's Aa1 issuer rating. Port of Morrow's role is solely as a conduit issuer. The Aa1 rating assumes final documentation according to our current understanding of the transaction.

BPA's Aa1 issuer rating reflects its fundamental credit strengths comprising of United States of America, Government (Aaa stable) support features, strong underlying hydro and transmission assets, competitive power costs, and long-term power supply contracts with customers through 2028. Explicit US Government support features include borrowing authority with the US Treasury ($3.0 billion available as of September 30, 2015) and the legal ability to defer its annual US Treasury debt repayment if necessary. BPA's importance to the US Northwest region and its role as a US government agency represent drivers of implicit support. US federal government's strong explicit and implicit support features are key credit strengths that support BPA's Aa1 rating even though BPA faces weaknesses outlined below.

BPA's rating also considers long-term credit challenges such as hydrology and wholesale market price risk, 'regulated utility' like ratemaking process, environmental burdens, and forward-looking consolidated financial metrics that range in the 'Ba' to 'A' category per Moody's U.S. Public Power Electric Utilities with Generation Ownership Exposure methodology. Hydrology and wholesale market prices are the greatest volatility drivers of BPA's financial performance. Additionally, BPA's accelerated repayment of federal appropriations debt and declining availability under the US Treasury line are factors that diminish the US government explicit support features over time.

Exhibit 1
Columbia River Runoff at Dalles



Source: Moody's Investors Service, BPA

Credit Strengths

» U.S. government support through US Treasury borrowing line and federal debt service deferral ability

» Regional importance as indirect power provider for 12 million people

» Access to 22 GW of low cost, federally owned hydro system

» Dominant electric transmission provider in the Pacific Northwest

» Highly competitive rates

» Long-term power sales contracts with creditworthy public power entities

Credit Challenges

» 'Regulated utility' like ratemaking process

» Significant exposure to hydrology risk and wholesale power markets

» 'Ba' to 'A' category forecasted financial metrics

» Federal debt subordination weakening

» Declining availability under US Treasury Line

» Significant fish and wildlife environmental costs

Rating Outlook

The stable outlook on the lease revenue bonds reflect BPA's stable outlook. BPA's stable outlook considers BPA's FY 2016-17 final rates and BPA's plan to maintain sufficient availability under the US Treasury line through FY 2020.

Factors that Could Lead to an Upgrade

» Ratings on the lease revenue bonds could be upgraded if BPA is upgraded.

» BPA's rating could improve over the long term if BPA is able to substantially mitigate hydrology and wholesale price risk and if BPA implements policies to ensure strong internal reserves for risk resulting in at least 250 days cash on hand on a sustainable basis.

Factors that Could Lead to a Downgrade

» Ratings on the lease revenue bonds could be downgraded if BPA is downgraded or if the underlying lease agreement is violated.

» BPA's rating could be negatively pressured if BPA's internal liquidity drops below 30 days cash on hand on a sustained basis, if US Government support diminishes, if BPA further weakens the benefits of federal debt subordination or if the US Government's rating is lowered below Aaa.

Key Indicators

Exhibit 2

	2011	2012	2013	2014	2015
Total Sales (mWh)	96,727,920	94,774,440	87,547,440	89,325,720	81,599,400
Debt Outstanding ($'000)	13,566,000	14,534,245	15,013,366	15,571,590	16,089,851
Debt Ratio (%)	99.5	96.6	95.7	95.7	94.5
Total Days Cash on Hand (days)	143	132	117	136	152
Total Debt Service Coverage (x) (Post Transfers/PILOTs - All Debt)	1.06	1.11	1.05	1.19	1.17
Non-Federal Debt Service Coverage (x) (Post Transfers/PILOTs - Non-Federal Debt)	2.17	2.07	1.7	3.46	4.34

Source: Moody's Investors Service, BPA

Recent Developments

In May 2016, the United States District Court for the District of Oregon ordered a new biological opinion for the endangered and threatened fish of the Pacific Northwest's Columbia and Snake Rivers since the current biological opinion did not meet the requirements of the Endangered Species Act (ESA). A new biological opinion is due March 2018 and the additional mitigation measures and associated costs are unknown at this time. We currently incorporate the assumption that BPA's fish and wildlife mitigation costs will continue to grow and such costs will be recovered from rates. For FY 2015, BPA estimated total direct and indirect fish and wildlife mitigation costs at $758 million.

Also in May 2016, four of BPA's customers have notified BPA of their desire to cease purchasing the 'Slice' product and purchase firm power instead on a block and/or load following arrangement starting in FY2020. If the switch moves forward, BPA anticipates 20-22% of the federal system output will be under the 'Slice' arrangement instead of almost 27%. We see the possible change as moderately credit negative since the 'Slice' arrangement transfers hydrology risk to BPA's customers and thus the customer's shift from the Slice product into a block and/or load following arrangement will increase BPA's exposure to hydrology risk.

In April 2016, BPA's released its Q2 2016 quarterly business update with modestly improved expectations for FY 2016. BPA currently expected full-year FY2016 will be $195 million ($225 million in Q1 2016 estimate) below its rate case owing mainly to lower power prices and the need to replenish water reservoirs utilized in FY2015. To the extent BPA underperforms relative to its rate case, we expect its internal liquidity will act as the primary buffer. BPA's Q2 2016 report shows reserves for risk dropping to $655 million ($623 million in Q1 2016 estimate) at fiscal year-end FY2016 compared to $845 million at fiscal year-end FY2015.

In February 2016, ENW's Project 1, Project 3, and CGS obtained an aggregate $300 million of lines of credit maturing on June 30, 2017 to pay interest expense and operations and maintenance (O&M) costs. We understand the debt funding of these ENW expenses in addition to usage of $80 million of funds previously set aside for construction capital spending will allow BPA to shift funds that would have been paid to ENW and instead accelerate payment of federal appropriations debt that was originally expected to be paid in FY2017. We expect a capital markets debt offering by ENW in 2017 will be the ultimate source of refinancing the bank loans. While we understand BPA expects to save nearly $20 million of interest expense given the higher cost of federal appropriations debt, we see this financial engineering as weakening the effective subordination of federal debt similar to BPA's Regional Cooperation Debt program. Additional actions by BPA that further diminishes the benefits of federal debt subordination could eventual lead to a negative rating action since the subordination of federal debt remains a credit support factor.

On October 1, 2015, BPA implemented its new power and transmission rates for the two year, FY2016-2017 rate period. The average wholesale power rate increased by 7.1% while the average transmission rate increased by 4.4%, which are modestly below the February 2015 proposed power rate increase of 7.2% and the January 2015 proposed transmission rate increase of 5.6%, respectively. Federal Energy Regulatory Commission (FERC) approved the rates on February 2, 2016.

Detailed Rating Rationale section below is nearly identical to Moody's report on BPA published on April 28, 2016 with the exception of updates to the 'Legal Security' section to reflect the specifics of the 2016-2 transmission revenue bonds.

Detailed Rating Consideration

Revenue Generating Base

MAJOR POWER AND TRANSMISSION PROVIDER TO THE PACIFIC NORTHWEST

BPA derives its revenues from the sale of power and transmission services from its dominant hydroelectric generation and electric transmission assets in the Pacific Northwest. BPA has roughly 75% of the Pacific Northwest's bulk electric transmission consisting of 15,000 miles of high voltage transmission lines and 261 substations and other facilities located in BPA's service area. Additionally, BPA's power supply represents roughly one third of the total regional power supply and consists of 22 GW of mostly federally owned hydro plants, the 1.1 GW CGS nuclear plant, and market and contract purchases.

Power sales represent the largest portion at typically 75% of total revenue and the majority of these sales are made under long-term power sales contracts (Preference Contracts) maturing in 2028 with 133 municipally owned utilities, cooperatively owned utilities, and federal agencies. Sales to these customers totaled approximately $1.93 billion in FY 2015 and represent BPA's largest revenue segment at nearly 57% of total revenues. Snohomish County P.U.D. 1, WA Electric Ent (Aa3/stable) is BPA's largest preference customer at 9% of power sales in FY 2015 and the top ten customers, including one industrial customer, represent approximately 48% of power sales. Power rates charged by BPA are highly competitive and BPA's average tier 1 rate for FY 2015 is $33.75/MWh. BPA also sells power directly to certain industrial customers and on a wholesale basis.

After power sales, electric transmission sales are BPA's largest revenue source and in FY 2015, BPA's transmission business provided $937 million in revenues. BPA's top transmission customer is Puget Sound Energy Inc (Baa1 stable) and PacifiCorp (A3 stable) at 12% each of transmission revenue in FY 2015 and the top ten transmission customers provided 58% of transmission revenues.

Exhibit 3
Percent of BPA Sales by Top Ten Customers

Power Customer Name	Type	Rating	% of Power Sales	Transmission Customer Name	Rating	% of Transmission Sales
Snohomish County PUD No 1	Preference	Aa3	9%	Puget Sound Energy Inc.	Baa1	12%
Cowlitz County PUD No 1	Preference	A1	7%	Pacificorp	A3	12%
City of Seattle City Light Dept	Preference	Aa2	7%	Portland General Electric Company	A3	9%
Pacific Northwest Generating Coop.	Preference	NR	6%	Powerex Corp*	NR	6%
Tacoma Power	Preference	Aa3	5%	City of Seattle City Light Dept	Aa2	5%
Clark Public Utilities	Preference	A1	4%	Snohomish County PUD No 1	Aa3	4%
ALCOA Inc.	Direct Sale	Ba1	3%	Iberdrola Renewables Inc	Baa1	4%
Eugene Water & Electric Board	Preference	Aa3	3%	Clark Public Utilities	A1	2%
Benton County PUD No. 1	Preference	Aa3	2%	Pacific Northwest Generating Coop.	NR	2%
Flathead Electric Cooperative, Inc	Preference	NR	2%	Hermiston Power LLC	NR	2%
Total			48%	Total		58%

*Powerex Corp is a subsidiary of BC Hydro (Aaa)
Source: Moody's Investors Service, BPA

'REGULATED UTILITY' LIKE RATE MAKING PROCESS COULD DELAY TIMELY RECOVERY

Unlike a traditional public power utility, BPA's ratemaking procedure for power and transmission rates charged to its customers involves an extensive process that shares similarities with a rate regulated utility and could create complications and delays in timely recovery of BPA's costs. The Northwest Power Act contains specific ratemaking procedures for BPA, mandates justification and reasons in support of such rates, and requires a hearing. The BPA Administrator ultimately decides the power and transmission rates based on the hearing record including all information submitted. Rates established by BPA are subject to approval by FERC. Currently, BPA has rate cases every two years. In a stress situation, BPA could file an expedited rate with FERC and the whole process could take several months for an interim rate approval. We see BPA's rate setting process as materially weaker than peers such as Tennessee Valley Authority (Aaa stable) that have unfettered, self-regulated rate setting.

Notwithstanding the 'regulated utility' like ratemaking process that BPA operates under, we recognize that BPA has historically demonstrated a willingness to raise rates in difficult situations such as the power crisis of 2000-2001 when BPA raised rates by 46%. Additionally, within a rate period, BPA is able to charge up to an additional $300 million per year starting at the beginning of the fiscal year under the Cost Recovery Adjustment Clause (CRAC) if Power Service's accumulated net revenue is below a set level that is equivalent to reserves for risk at zero balance. A separate NFB Adjustment for certain environmental costs can raise the $300 million CRAC limit. While the CRAC mechanism adds some flexibility to BPA's two-year rate periods, the annual basis of the test and low trigger point limit the benefit of the CRAC mechanism.

A credit supportive rate setting tool is BPA's use of its treasury payment probably tool whereby BPA proposes rates at levels that it can meet its US Treasury payments at a 95% confidence level based on its cash flows and reserves. BPA's approach should ensure a high probability of near-term payments to the US Treasury and an extremely high probability of near-term timely payments on non-federal debt service, which is effectively senior to the debt owed to the US Treasury.

REGIONAL HYDROLOGY AND WHOLESALE PRICE RISK ARE BPA'S BIGGEST VOLATILITY DRIVERS

BPA's financial results can be materially impacted by hydrology in the Columbia River Basin and by wholesale power prices since market based power sales can represent roughly 10-15% of total revenues. Since 2001, hydrology has been very volatile with the high and low levels of hydrology ranging from around 130% to 60%, respectively, of the long-term average. Similarly, power prices have also been volatile with a recent peak nearing $60/MWh in 2008 and a low below $20/MWh in 2012. These factors, which are outside of BPA's control, have contributed heavily to nearly a $1 billion swing in reported net revenues between the best and most challenging years and represent BPA's biggest driver of cash flow volatility since power sales under long-term contracts and transmission sales are relatively stable and predictable. The volatility of wholesale revenues emphasizes the importance of maintaining significant internal liquidity especially at BPA's rating level. For FY2016, BPA's updated Q1 2016 forecast indicates its adjusted net revenues will be $225 million below the rate case owing primarily to lower wholesale revenue. The primary causes of lower wholesale revenue are lower power prices and the need to replenish reservoir storage utilized in FY2015 although FY2016 appears to be around average water. BPA utilized a substantial amount of its treaty related water storage in FY2015 due to substantial below average conditions that year.

Operational and Financial Performance

ENVIRONMENTAL COSTS ARE MATERIAL

BPA faces conflicting uses of the Columbia River and environmental regulations, such as the Endangered Species Act (ESA), that contribute significantly to BPA's costs and weighs heavily on BPA's cash flows. Biological opinions prepared by National Oceanic and Atmospheric Administration Fisheries Service and the US Fish and Wildlife Service mandate actions to protect fish species resulting in direct costs such as hatcheries and indirect loss of revenue from hydro dam operational changes. For FY2015, BPA estimates total fish and wildlife costs at approximately $758 million consisting of $494 million in direct costs and $264 million of indirect costs. BPA was able to recover the non-power related environmental costs totaling $82 million from the US Treasury in FY 2015.

While BPA's fish and wildlife mitigation costs are considerable, BPA's federally and non-federally owned generation are emissions free since they consist of hydro and nuclear generation. As such, BPA remains insulated against new federal emissions regulations including those for greenhouse gases and BPA could benefit if new emissions regulations increase the market price of power.

FINANCIAL METRICS ARE LOW FOR THE RATING

On a fully consolidated basis including federal debt, BPA's financial metrics are commensurate with Ba to A category scoring on a historic basis. Total DSCR has averaged around 1.14x over the last three years, which is commensurate with a 'Baa' scoring, while BPA's debt ratio is high at an average of 95% which is commensurate with a 'Ba' scoring. Looking forward, BPA's rates typically result in around 1.0x DSCR; however, FY2016 could be moderately below 1.0x based on BPA's Q1 FY2016 update. BPA's forecasted underperformance after only one quarter following its new rates implemented in October 2015 highlights the uncertainty of regional hydrology and wholesale prices. Separately, we expect non-federal DSCR to be above 4.0x since principal payments for CGS, Project 1, and Project 3 will be pushed out to the future resulting in an interest only coverage ratio for non-federal DSCR.

LIQUIDITY

For FY 2015, BPA had reserves for risk, a measure of internal liquidity, totaling $845 million (152 days cash on hand) from $784 million (136 days cash on hand), which is commensurate with an 'A' scoring. The increase in reserves for risk primarily benefited from a reclassification of funds that was previously set aside for litigation. For FY 2016, BPA expects its reserves for risk to decline by approximately 26% to $627 million by FY2016 mainly due low power prices and the need to refill reservoir storage that was used in FY2015.

Supplementing BPA's internal liquidity is a $750 million borrowing sublimit under the US Treasury line that can be used to fund operating expenses. This line of credit expires in August 28, 2019 and any draw needs to be repaid within one year. Our rating incorporates the assumption that the line will continue to be extended prior to maturity. We understand BPA is considering a reserve policy and we would view a robust policy that emphasized robust internal reserves to be credit positive.

Debt and Other Liabilities

DEBT STRUCTURE

BPA's $15.7 billion in total debt consists of $7.54 billion of non-federal debt and $8.16 billion of federal debt, which is debt owed by BPA to the federal government. BPA's non-federal debt are debt like contractual obligations such as BPA's obligation to CGS, Project 1, and Project 3 under net billing agreements. In addition to the net billing agreements, BPA has non-federal debt through leases, power prepay, and other take-or-pay contractual obligations. Since these obligations are treated as an operating expense of BPA, they have priority over BPA's direct debt obligation to the US Treasury and BPA can defer payments to US Treasury, if necessary. This deferral ability provides BPA a major source of financial flexibility under extreme situations though BPA has not deferred such payments since 1983 and any deferral is likely to have significant negative political ramifications. The significantly higher non-federal DSCR previously described above also highlights the substantial benefits of the federal debt's effective subordination to non-federal debt and these benefits are supportive of the Aa1 rating on the CGS, Project 1, and Project 3 debt.

Over the longer term, we see BPA's Regional Cooperation Debt (RCD) program as undermining the benefits of the federal debt's subordination since the program results in a substantial extension of non-federal debt in exchange for the accelerated repayment of federal appropriations debt. Further undermining the effective senior position of non-federal debt is BPA's recent plans for the Energy

Northwest nuclear projects to debt fund interest and O&M expenses for approximately a year with the objective of accelerating repayment of federal appropriations debt so BPA could save an estimated $20 million of interest expense. While the short term advance is expected to be repaid next year, we see a material probability that BPA will continue the program of debt funding ENW's O&M and interest expense on a rolling basis to accelerate federal appropriation debt repayment.

DEBT-RELATED DERIVATIVES

BPA's has interest rate swaps of around $1 billion mostly tied to its lease financed transmission assets. We understand there are no collateral posting requirements under any conditions for these derivatives.

PENSIONS AND OPEB

BPA employees are part of the US government's post-retirement benefit programs for all federal civil employees. The post-retirement benefits are overseen by the United States Office of Personnel Management (OPM), an independent agency that manages the civil service of the federal government. As such, BPA does not record any accumulated plan assets or liabilities related to the administration of a retirement plan.

Management and Governance

US GOVERNMENT SUPPORT IS A MAJOR STRENGTH

While BPA's obligations do not benefit from the full faith and credit of the United States Government, BPA benefits from significant explicit and implicit support elements from the US Government. The key supports elements consist of BPA's borrowing line ($3.0 billion available) with the US Treasury and the ability to defer payments to the US Treasury. That said, BPA forecasts the US Treasury line availability shrinking over time which we see as weakening a key support element.

A strong qualitative consideration for implicit support includes BPA's role as a line agency of the US Department of Energy. As a line agency of the US DOE, the BPA Administrator reports to the US Secretary of Energy and BPA has numerous linkages with other federal agencies. For example, the US Army Corp of Engineers and the US Bureau of Reclamation own and operate the federal dams while BPA markets the power output and pays for all of the associated operating and capital costs.

Importance to the US Northwest region is another key qualitative factor. BPA is responsible for certain treaty responsibilities with Canada regarding the federally owned dams, significant regional environmental protection programs, and coordination of river operations. Northwest US representation on key US House and Senate committees that deal with energy legislation is a credit strength.

Overall, we see these explicit and implicit US support as providing at least a 3-notch lift to BPA's standalone credit quality and represent key considerations for BPA's Aa1 rating. In a major stress scenario, Moody's expects any US Government support to BPA is likely to be provided through the established US Treasury credit line or deferral of payments to the US Treasury.

Legal Security

Bond security is the pledge of the lease agreement between the Port of Morrow and BPA to lease certain transmission lines and related equipment. BPA's obligation to make lease payments is absolute and unconditional and is payable without any set-off or counterclaim, regardless of whether or not the project is operating or operable. The lease is co-terminus with the bonds and the lease payments have been structured to match debt service payments including the lease bond's bullet maturities ranging from 2020 through 2021. The bond trustee has the right to receive all lease payments and BPA will directly make the lease payments to the bond trustee. There is no debt service reserve.

Use of Proceeds

Bond issuance proceeds will be used acquire recently completed electric transmission improvements and pay transaction costs. BPA will then lease these assets.

Obligor Profile

BPA was created in 1937 by an act of the US Congress and is one of four regional power marketing agencies within the US Department of Energy. BPA is primarily responsible for federally owned generation and electric transmission assets in the Pacific Northwest spanning all or parts of eight states. The federal hydro projects serve numerous purposes, including irrigation, navigation, recreation, municipal and industrial water supply, fish and wildlife protection, and power generation. The Army Corps of Engineers and the Bureau of Reclamation own and operate the hydro projects. Many of the statutory authorities of BPA are vested with the Secretary of Energy, who appoints and acts through the BPA administrator.

Other Considerations: Mapping to The Grid

Moody's evaluates BPA's issuer rating under the US Public Power Electric Utilities with Generation Ownership Exposure methodology, and the grid indicated rating is Aa2, which is lower than its Aa1 assigned rating. The implicit and explicit US Government support features represent the key drivers between BPA's Aa1 assigned rating and the Aa2 indicated rating under the US Public Power with Generation Ownership methodology.

The grid is a reference tool that can be used to approximate credit profiles in the US public power industry in most cases. However, the grid is a summary that does not include every rating consideration. Please see U.S. Public Power Electric Utilities with Generation Ownership Exposure for more information about the limitations inherent to grids.

Exhibit 4

BPA Methodology Scorecard

Factor	Subfactor	Score	Metric
1. Cost Recovery Framework Within Service Territory		Aa	
2. Wllingness and Ability to Recover Costs with Sound Financial Metrics		A	
3. Generation and Power Procurement Risk Exposure		Aa	
4. Competitiveness	Rate Competitiveness	Aa	
5. Financial Strength and Liquidity	a) Adjusted days liquidity on hand (3-year avg) (days)	A	135
	b) Debt ratio (3-year avg) (%)	Ba	95%
	c) Adjusted Debt Service Coverage or Fixed Obligation Charge Coverage (3-year avg) (x)	Baa	1.14
Preliminary Grid Indicated rating from Grid factors 1-5			
		Notch	
6. Operational Considerations		1	
7. Debt Structure and Reserves		1.5	
8. Revenue Stability and Diversity		0	
Grid Indicated Rating:		**Aa2**	

Source: Moody's Investors Service

Methodology

The principal methodology used in this rating was US Public Power Electric Utilities With Generation Ownership Exposure published in March 2016. Please see the Ratings Methodologies page on www.moodys.com for a copy of this methodology.

Ratings

Exhibit 5

Bonneville Power Administration, OR

Issue	Rating
Transmission Facilities Revenue Bonds (Bonneville Cooperation Project No. 5) Series 2016-2 (Federally Taxable)	Aa1
Rating Type	Underlying LT
Sale Amount	$125,000,000
Expected Sale Date	06/21/2016
Rating Description	Revenue: Government Enterprise

Source: Moody's Investors Service

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