FitchRatings

Public Finance
Public Power
United States

Bonneville Power Administration, Oregon

New Issue Summary

Sale Date: May 11, 2022

Series: Energy Northwest (ENW) Columbia Generating Station (CGS) Electric Revenue Refunding Bonds, Series 2022-A and 2022-B; Project 1 Electric Revenue Refunding Bonds, Series 2022-A and 2022-B; and Project 3 Electric Revenue Refunding Bonds, Series 2022-A

Purpose: Fund new money capex at the Columbia Generating Station, refinance existing bonds as part of Bonneville Power Administration and ENW's regional cooperation debt program, and pay costs of issuance.

Security: Unconditional payments from Bonneville.

Bonneville's 'AA–' Issuer Default Rating (IDR) reflects very strong revenue defensibility and very low operating costs, which support the utility's financial profile assessment of 'aa'. The 'AA' ratings on the nonfederal debt obligations, including the ENW bonds, is distinct from Bonneville's 'AA–' IDR and reflects Bonneville's unconditional obligation to make nonfederal debt payments ahead of its federal debt. Bonneville's federal obligations include the structural ability to defer debt repayments and interest due in the event Bonneville's revenues are insufficient following the payment of Bonneville's other obligations, including nonfederal debt.

Key Rating Drivers

Revenue Defensibility: 'aa'; Geographic and Operational Revenue Diversity: Bonneville's revenue defensibility is very strong. Long-term power sales contracts with over 125 customers and Bonneville's dominant role as the regional transmission provider result in long-term revenue security despite some degree of renewal risk related to the power supply contracts, which is considered an asymmetric rating consideration. The purchaser credit quality of Bonneville's wholesale power and transmission customers is strong.

Operating Risk: 'aa'; Very Low-Cost Hydroelectric Power Supply: Bonneville's operating cost burden is low, averaging 3.9 cents/kWh over the last three years, largely due to a very low-cost, predominantly hydroelectric generation fleet. Operating cost flexibility is considered weaker given the dominance of one fuel type in the fleet. However, hydroelectric generation is poised to enjoy some protection in the short-term as inflationary natural gas prices affect other generation sources in the market. Capital needs are considered moderate, but projected capex spending totals $4.7 billion over the next five years.

Financial Profile: 'aa'; Highly Leveraged; Strong Sales Improved Liquidity in Fiscals 2020 and 2021: The financial profile is very strong with improved liquidity. Despite the economic and coronavirus-related challenges of fiscals 2020 and 2021, Bonneville ended the years with lower than budgeted expenditures and higher than budgeted net secondary revenues due to favorable water conditions and production at the hydroelectric assets.

Leverage declined to 9.6x in fiscal 2021 from 11.4x in fiscal 2019 based on strong cash flows and increased reserves. Fitch expects Bonneville's leverage to range between 9.0x and 10.0x over the next five years given planned capex and debt issuance. However, leverage could periodically increase to 11.0x under adverse water conditions, as occurred in fiscal 2019.

Transmission business lines are able to support slightly higher leverage than the power business line, resulting in Fitch's rating tolerance for leverage periodically trending slightly higher than the 10.0x 'aa' threshold.

FACT Tools

Ratings

Long-Term Issuer Default Rating	AA–

New Issues

$400,900,000 (Columbia Generating Station) Electric Revenue and Refunding Bonds, Series 2022-A	AA
$1,800,000 (Columbia Generating Station) Electric Revenue Refunding Bonds (Taxable), Series 2022-B	AA
$92,600,000 (Proj 1) Electric Revenue Refunding Bonds (Taxable), Series 2022-B	AA
$530,000 (Proj 1) Electric Revenue Refunding Bonds, Series 2022-A	AA
$16,600,000 (Proj 3) Electric Revenue Refunding Bonds, Series 2022-A	AA

Outstanding Debt Details on Page 3

Rating Outlook

Stable

Applicable Criteria

Public Sector, Revenue-Supported Entities Rating Criteria (September 2021)

U.S. Public Power Rating Criteria (April 2021)

Related Research

Fitch Ratings 2022 Outlook: U.S. Public Power and Electric Cooperatives (December 2021)

Public Power - Fitch Analytical Comparative Tool (FACT) - 2021 (June 2021)

U.S. Public Power — Peer Review (June 2021)

Amendment
In the *Rating History (IDR)* table on page 2, the May 4, 2022 rating was incorrect.

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Rating Sensitivities

Factors that Could, Individually or Collectively, Lead to Positive Rating Action/Upgrade

- Material and consistent declines in leverage below 8.0x in Fitch's base and stress cases.

Factors that Could, Individually or Collectively, Lead to Negative Rating Action/Downgrade

- Leverage trending consistently above 11.0x in Fitch's base and stress cases with limited expectation of reduction, which could occur if debt-reduction targets are weakened or abandoned;
- A dilution of revenue defensibility over the medium term that reduces Bonneville's ability to support existing leverage at its rating. The potential for dilution could occur from reductions in load or more permissive contract terms, should they emerge during the contract-renewal process.

Credit Profile

Bonneville provides wholesale power to a population of more than 14 million in the Pacific Northwest through a resource portfolio consisting of low-cost hydropower and nuclear generation. Transmission services are provided to a similar six-state region, but to a broader number of utilities. Bonneville is the largest of four federal power-marketing agencies within the U.S. Department of Energy. Its predominantly hydroelectric generation portfolio (86% of total owned capacity) results in hydrology risk and a variable energy supply.

Increased Borrowing Authority and Financial Plan Update

Bonneville received a significant increase to its federal borrowing authority in November 2021, which should ease capex funding pressures. The Infrastructure Investment and Jobs Act increased Bonneville's borrowing authority to $13.7 billion currently and $17.7 billion in fiscal 2028 from $7.7 billion in 2021. Over the past decade, Bonneville developed a taxable lease-financing program for transmission assets and created a regional cooperation debt program with ENW to preserve federal borrowing authority.

The increased federal borrowing authority should have a positive impact on Bonneville's cost structure and allow it to reduce its use of higher cost debt-financing alternatives. Bonneville does not anticipate the new authority will result in a departure from its leverage policy established in 2018.

Bonneville is engaged in an overall update of its 2018 financial plan, which it expects to complete by the end of fiscal 2022. Elements of the update relate to overall indicators used to measure financial health, and include consideration of the increased borrowing authority and related elements, such as long-term debt management and debt capacity. Bonneville's existing leverage policy targets a debt-to-asset ratio of 75%–85% by fiscal 2028, and between 60% and 70% beyond 2028.

Bonneville reported its debt-to-asset ratio at 83% in fiscal 2021. Fitch's analysis continues to incorporate the existing leverage-reduction targets. The increased borrowing authority could allow for a policy return to higher debt financing of capex, but Fitch has not factored this development in its analysis.

Rating History (IDR)

Rating	Action	Outlook/ Watch	Date
AA–	Affirmed	Stable	5/4/22
AA–	Affirmed	Stable	11/24/20
AA–	Affirmed	Negative	6/3/20
AA–	Assigned	Stable	4/30/19

IDR – Issuer Default Rating.
Source: Fitch Ratings.

Revenue Defensibility

Bonneville exhibits very strong revenue source characteristics, as 100% of its revenues come from power and transmission services. Bonneville is required by statute to sell power at cost-based rates, with a preference to 125 municipal utilities, public utility districts and cooperatives. The publicly and cooperatively owned utilities, Bonneville's preference customers, account for around 86% of power sales and are required to purchase nearly all their energy from Bonneville pursuant to power sales contracts that extend through 2028.

Power sales (estimated based on critical water conditions) are made to federal entities (4%), direct service industrial customers (1%) and through contract sales (9%). If water conditions are above critical level — Bonneville assumes for rate-setting and financial forecasting purposes that water conditions will be average — these surplus amounts of energy are sold into the market, as available, as net secondary sales.

Transmission Revenues

Bonneville's transmission business line is becoming a larger share of its consolidated operations. Transmission revenues accounted for 25% of total operating revenues in fiscal 2021, up from 16% in fiscal 2008. Transmission customers represent a wider group than Bonneville's preference customers and include investor-owned utilities and power generators in the region. Transmission customers do not have long-term contracts, but Fitch believes this business provides strong revenue defensibility given the monopolistic nature of high-voltage transmission and the absence of excess transmission capacity from other providers.

Rate Flexibility

Bonneville establishes its own power and transmission rates, and rate flexibility is viewed as very strong. However, determining a final record of decision on each rate case is a lengthy and rigid process, imposing practical limitations on Bonneville's ability to adjust rates outside the rate case process compared with public power peers. The Federal Energy Regulatory Commission (FERC) reviews and approves Bonneville's rates, but regulatory concerns are mitigated, as the FERC provides oversight to ensure full cost recovery and revenue sufficient to pay debt service on U.S. Treasury obligations. FERC regulates transmission rates to further ensure they are nondiscriminatory, as well as just and reasonable.

Bonneville establishes its power and transmission rates for two-year periods. The most recent 2022–2023 rate case, effective Oct. 1, 2021, consisted of a 2.5% average base power rate decline and a 5.4% average increase in transmission rates. Bonneville's Tier 1 power rate declined to 3.493 cents/kWh. The power rate decrease was enabled by stronger net secondary revenues in recent years, which are expected to continue over the 2022–2023 rate period. The transmission rate increase primarily reflects increased capital costs to build new transmission interconnections and reinvest in existing transmission in the region.

Rates include revenue funding of capex at $40 million per year for both the power and transmission business lines. This policy shift toward higher revenue funding of capex reflects Bonneville's increased focus on its debt metrics and intent to reverse the increasing leverage trend. The revenue funding of $80 million is a relatively modest 10% of the estimated $771 million in capex planned in fiscal 2022, but Bonneville intends to gradually increase funding in future rate cases for the transmission business line, where it expects the majority of planned capex to occur in the next decade.

Purchaser Credit Quality

Purchaser credit quality is strong with a collective purchaser credit index score of just over 1.5. Power and transmission customers are geographically and operationally diverse, reflecting a service area extending across Idaho, Oregon, Washington and portions of Montana, Wyoming, Nevada, Utah and California. Bonneville's system accounts for approximately 28% of the electricity sold in the region and a significant share of the region's transmission infrastructure.

The largest power and transmission customers, accounting for approximately 40% of Bonneville's total operating revenues, include Snohomish County Public Utility District No. 1 (AA–/Stable); Seattle City Light (not rated by Fitch); Puget Sound Energy, Inc. (BBB+/Stable); Cowlitz County Public Utility District No. 1 (A/Stable); Tacoma Electric (AA–/Stable); Clark County Public Utility District No. 1 (AA/Stable); Eugene Water & Electric Board Electric System

Outstanding Debt

Energy Northwest (WA) (Columbia Generating Station) Electric Revenue and Refunding Bonds	AA
Energy Northwest (WA) (Proj 1) Electric Revenue Refunding Bonds	AA
Energy Northwest (WA) (Proj 3) Electric Revenue Refunding Bonds	AA
Idaho Energy Resources Authority (ID) (Bonneville Cooperation Project No. 1) Transmission Facilities Revenue Bonds (Taxable)	AA
Idaho Energy Resources Authority (ID) (Bonneville Cooperation Project No. 2) Transmission Facilities Revenue Bonds (Taxable)	AA
Idaho Energy Resources Authority (ID) Wells Fargo Note Purchase Agreement	AA
Lewis County Public Utility District No. 1 (WA) (Cowlitz Falls Hydroelectric Project) Revenue Refunding Bonds	AA
Port of Morrow (OR) (Bonneville Cooperation Project No. 1) Transmission Facilities Revenue Bonds	AA
Port of Morrow (OR) (Bonneville Cooperation Project No. 2) Transmission Facilities Revenue Bonds (Taxable)	AA
Port of Morrow (OR) (Bonneville Cooperation Project No. 3) Transmission Facilities Revenue Bonds (Taxable)	AA
Port of Morrow (OR) (Bonneville Cooperation Project No. 4) Transmission Facilities Revenue Bonds (Taxable)	AA
Port of Morrow (OR) (Bonneville Cooperation Project No. 7) Transmission Facilities Revenue Bonds (Taxable)	AA
Port of Morrow (OR) (Bonneville Cooperation Project No. 8) Transmission Facilities Revenue Bonds (Taxable)	AA
Port of Morrow (OR) (Bonneville Cooperative Project No. 6) Transmission Facilities Revenue Bonds (Taxable)	AA

Source: Fitch Ratings.

(AA–/Stable); Benton County Public Utility District No. 1 (AA–/Stable); and Grays Harbor County Public Utility District No. 1 (A/Stable). Most of these utilities have independent rate-setting authority, favorable service area characteristics, competitive rates and strong financial profiles.

Reliance on Wholesale Energy Sales

Bonneville relies on uncontracted wholesale energy sales for a portion of its revenue, between 8% and 15% of total revenues between fiscals 2017 and 2021. While this reliance is inherent to the variable nature of its hydroelectric fuel supply, it creates heightened revenue variability that informs Fitch's assessment of revenue defensibility.

For rate-making and financial planning purposes, Bonneville considers the additional energy production available for sale under average water conditions. These wholesale sales, netted against market purchases Bonneville makes during certain months to shape the output of the federal system, compose net secondary system revenue. There is revenue risk in this budgeting practice. Revenues can be lower than budgeted if water conditions are below average, or water conditions could be modestly above average but market prices fall below assumed levels. Bonneville incorporates the benefit of expected net secondary revenues into its established Tier 1 power rates.

Net secondary revenues were lower than budgeted in three of the last five years due to below average water conditions and low market energy prices given low natural gas prices and growing renewable energy supplies. These results are primary factors behind the variation in financial reserves for the power business line, lower prior to 2019 and improved in 2020 and 2021. Market energy prices began to increase in 2020 and have been higher in recent months due to the reduction of firm capacity across the broader regional western market and higher natural gas prices.

Power Supply Contract Term Considerations

Bonneville's power supply contracts expire in 2028, which is well before the final maturity of Bonneville's debt and represents an asymmetric rating consideration. However, Fitch's concerns about the mismatch is mitigated by the regional depth of the existing customer base and the likelihood that many of the existing preference customers will elect to re-sign new contracts.

Bonneville's ability to offer competitively priced power supply services will be a key factor during the extension of its power sales contracts, with negotiations expected to occur between 2022 and 2026. A material reduction of purchaser load under long-term contract or a notable change in contract terms could result in a dilution of Bonneville's revenue source characteristics.

Operating Risk

Bonneville sells energy produced by 31 low-cost hydroelectric plants owned and operated by the U.S. Army Corps of Engineers and the U.S. Bureau of Reclamation. The federal hydroelectric projects were constructed between 1941 and 1975. Bonneville has direct-funding agreements with both agencies to pay operating and capex costs.

The direct funding of capital improvements allows Bonneville to direct decision making and prioritization of reinvestment in the hydroelectric fleet. Bonneville also markets energy from nonfederal projects, the largest of which is the CGS, a 1,174MW nuclear plant that entered commercial operation in December 1984. CGS accounts for approximately 10% of Bonneville's power supply. Bonneville's resources, even under low water conditions, are sufficient to meet projected preference customer loads.

Bonneville's operating cost burden is very low at between 3.1 cents/ kWh and 4.2 cents/kWh over the past five years. The cost burden includes payments related to the residential exchange program. Bonneville is legally required to provide power to meet the residential load within the Pacific Northwest, including load served by investor-owned utilities. Bonneville makes financial payments, in lieu of supplying physical power, to investor-owned utilities with retail load in the region to comply with this obligation.

Operating Cost Flexibility

The reliance on hydroelectric power for over 80% of the power supply contributes to weak operating flexibility, given the dominance of a single fuel type.

Environmental Considerations and Clean Energy Transition

Bonneville's power supply portfolio is predominantly carbon free, which positions Bonneville's customers well in terms of efforts to reduce greenhouse gas emissions. For example, Washington passed the Clean Energy Transformation Act in 2019, requiring the state's power supply to be free of carbon emissions by 2045. Bonneville's customers in Washington are well positioned to achieve the 2045 target given Bonneville's existing power supply portfolio. Bonneville's portfolio is stable and not expected to change or grow, aside from efficiency investments.

Capital Planning and Management

Bonneville's capital planning and management is adequate, evidenced by an average plant age of 14 years in fiscals 2017–2019. However, a change in accounting treatment of nonfederal debt and the resulting increase to depreciation improved the calculation to nine years in fiscals 2020 and 2021. Capital spending as a percentage of depreciation averaged a healthy 110% annually over the past five years.

Despite ongoing investment, Bonneville faces issues such as aging infrastructure, delayed capital reinvestment in its hydroelectric fleet and growth needs in the transmission business line. Capital needs over the next five years are estimated at $4.7 billion, with 57% of spending, or around $2.8 billion, occurring in the transmission business line. These capital amounts do not include approximately $1.3 billion of additional capex ENW estimates CGS will need through 2031. The hydroelectric assets are owned by the U.S. Army Corp of Engineers and the U.S. Bureau of Reclamation, but Bonneville makes the funding decisions regarding the pace and scope of capital reinvestment.

Financial Profile

Bonneville's financial statements, issued as the Federal Columbia River Power System, include the accounts of Bonneville, the federal hydroelectric generating facilities of the U.S. Army Corps of Engineers and the Bureau of Reclamation dispatched by Bonneville, and O&M costs of the U.S. Fish and Wildlife Service for the lower Snake River facilities. The statements consolidate the activity of a financing corporation that finances transmission assets leased to Bonneville and nonfederal debt paid by Bonneville.

Fitch's calculated coverage of full obligations (COFO) is typically just below 1.0x, but Bonneville met all its financial obligations in each year. The COFO calculation below 1.0x is due to advance repayment of nonscheduled principal as part of Bonneville and ENW's regional cooperation debt strategy. ENW's debt service coverage (DSC) increased as a result of the regional debt cooperation strategy. Bonneville-calculated DSC is approximately 5.0x due to refunding and restructurings performed for all three ENW projects on principal payments.

Bonneville's leverage ratio exhibits variability, ranging between 9.3x at the end of fiscal 2020 and 11.4x in fiscal 2019, the highest point over the last five years. Leverage was 9.6x at the end of fiscal 2021. This trend reflects the variability in cash flow and reserves; outstanding debt balances gradually decreased over the period.

Improved Liquidity

Liquidity is neutral to the rating but fluctuates with water conditions and was notably weaker prior to fiscal 2020. Bonneville's total cash reserves improved at the end of fiscal 2021 to $1.06 billion, a Fitch-calculated DCOH of 161 days, up from 116 DCOH in fiscal 2019. The portion of this amount Bonneville considers as reserves available for risk — or unrestricted cash — was $825 million, up from $485 million at the end of fiscal 2019.

The power business line's share of reserves available for risk increased significantly to $617 million from $203 million in fiscal 2019. Strong reserves at the end of fiscal 2021 triggered the return of $14 million in excess reserves to power business line customers in fiscal 2022.

Cash reserves play a key role in managing aspects of Bonneville's revenue variability related to hydrology risk and wholesale energy sales. The trajectory and pace of declines between 2015 and 2018 in the power business line reserves available for risk were an ongoing weakness that contributed to Bonneville's decision to adopt the financial reversers policy (FRP). Prior declines in power business line reserves resulted from the underperformance of net secondary revenues and declining preference customer load.

The reserve increases in fiscal 2020 resulted from revenue and expenditure trends that were favorable to budget. Power and transmission business line reserves are comingled in the Bonneville Fund but tracked independently for rate-setting purposes.

Additional short-term liquidity flexibility is provided by Bonneville's $750 million line of credit with the U.S. Treasury that can be drawn for any purpose. When reserves were low in recent years, Bonneville used draws on the facility for interim cash flow purposes, including during 1Q20.

Financial Reserve Policy

Bonneville and its customers worked for three years to adopt the FRP in advance of the 2020 rate case to address the declining trend in power business line reserves. The FRP established a minimum threshold of 60 days' reserves for risk at each business line individually and for both business lines collectively. Fitch views the FRP as supportive of an improved liquidity profile because it provides Bonneville with the authority to increase rates solely to meet the objective of increasing cash reserves. If either business line has reserves lower than the 60-day target at the end of each fiscal year, rate increases will be implemented at specified amounts, even if they are mid-rate case. Similarly, the FRP requires the return of excess reserves to customers or the deployment of the excess reserves toward debt retirement or capex.

Fitch Analytical Stress Test (FAST) — Base Case and Stress Case

Fitch's FAST analysis indicates Bonneville's financial performance under the base case should include leverage between 9.0x and 10.0x. However, the results will vary with hydroelectric conditions and could increase again as leverage did in fiscal 2019 — a very low water year — to 11.4x. Fitch's base case assumptions includes strong performance and liquidity at the end of fiscal 2021, with no load growth and no assumed power base rate increases. Transmission rates are assumed to increase modestly and the base case relies on Bonneville's planned amounts of capital spending and the debt funding of nearly all capital spending.

The stress case imposes a moderate stress based on Bonneville's historical movement in total sales, which can be large based on hydrological conditions. However, the ultimate impact to revenues will be determined by wholesale market prices at the time. Fitch's stress case includes large declines in total wholesale sales in the first two years of 11.7% and 6.5%, respectively, followed by a recovery to positive sales growth. In this stress case, leverage could be elevated to between 10.0x and 11.0x.

Debt Profile

Total debt outstanding is split between Bonneville's federal debt and appropriations (roughly $7.23 billion at the end of fiscal 2021) and nonfederal debt (approximately $7.38 billion). Power business line debt is declining as a percentage of total debt. Power debt accounted for only 61% of total outstanding debt ($8.8 billion) at the end of fiscal 2021, compared with 67% in fiscal 2015 ($10.7 billion).

Bonneville's federal debt and appropriations debt offer a layer of structural support to nonfederal debt. Bonneville must defer payment on its federal obligation if revenues in the Bonneville Fund are insufficient to meet its nonfederal debt. This provision provides payment flexibility.

ESG Considerations

Unless otherwise disclosed in this section, the highest level of ESG credit relevance is a score of '3'. This means ESG issues are credit-neutral or have only a minimal credit impact on the entity, either due to their nature or the way in which they are being managed by the entity.

For more information on Fitch's ESG Relevance Scores, visit www.fitchratings.com/esg.

Financial Summary — Bonneville Power Administration, Oregon

($000, Audited Fiscal Years Ended Sept. 30)	2017	2018	2019	2020	2021
Net Adjusted Debt to Adjusted FADS (x)	**11.29**	**9.90**	**11.37**	**9.31**	**9.63**
Net Adjusted Debt Calculation					
Total Short-Term Debt	0	10,690	222,800	511,500	0
Total Current Maturities of Long-Term Debt	1,481,000	1,162,510	1,097,800	1,125,900	1,030,000
Total Long-Term Debt	14,312,700	14,197,200	13,731,800	13,249,100	13,863,000
Total Debt	**15,793,700**	**15,370,400**	**15,052,400**	**14,886,500**	**14,893,000**
+ Capitalized Fixed Charge — Purchased Power and Gas	353,760	382,800	715,920	296,880	595,680
- Total Unrestricted Cash	765,700	839,600	773,100	889,500	1,055,800
Net Adjusted Debt	**15,381,760**	**14,913,600**	**14,995,220**	**14,293,880**	**14,432,880**
Adjusted FADS for Leverage Calculation					
Total Operating Revenue	3,569,800	3,710,300	3,655,900	3,683,700	3,823,000
Total Operating Expenses	2,743,100	2,765,500	2,967,200	3,008,100	3,227,300
Operating Income	**826,700**	**944,800**	**688,700**	**675,600**	**595,700**
+ D&A	485,000	507,300	531,000	818,800	826,700
+ Interest Income	6,100	6,300	9,800	3,300	1,500
FADS	**1,317,800**	**1,458,400**	**1,229,500**	**1,497,700**	**1,423,900**
+ Adjustment for Purchased Power	44,220	47,850	89,490	37,110	74,460
Adjusted FADS for Leverage	**1,362,020**	**1,506,250**	**1,318,990**	**1,534,810**	**1,498,360**
Coverage of Full Obligations (x)	0.90	0.80	0.83	0.97	0.95
FADS	1,317,800	1,458,400	1,229,500	1,497,700	1,423,900
+ Adjustment for Purchased Power	44,220	47,850	89,490	37,110	74,460
Adjusted FADS for Coverage	**1,362,020**	**1,506,250**	**1,318,990**	**1,534,810**	**1,498,360**
Full Obligations Calculation					
Cash Interest Paid	534,240	343,100	335,500	440,200	384,400
Prior-Year Current Maturities	933,700	1,481,000	1,162,510	1,097,800	1,125,900
Total Annual Debt Service	**1,467,940**	**1,824,100**	**1,498,010**	**1,538,000**	**1,510,300**
+ Adjustment for Purchased Power	44,220	47,850	89,490	37,110	74,460
Total Fixed Obligations	**1,512,160**	**1,871,950**	**1,587,500**	**1,575,110**	**1,584,760**
Liquidity Cushion (Days)	245	257	228	273	275
Unrestricted Cash (Days)	124	136	116	148	161
Liquidity Calculation					
+ Total Unrestricted Cash	765,700	839,600	773,100	889,500	1,055,800
+ Total Borrowing Capacity	750,000	750,000	750,000	750,000	750,000
Total Liquidity	**1,515,700**	**1,589,600**	**1,523,100**	**1,639,500**	**1,805,800**
Cash Operating Expense Calculation					
Total Operating Expense	2,743,100	2,765,500	2,967,200	3,008,100	3,227,300
- D&A	485,000	507,300	531,000	818,800	826,700
Cash Operating Expenses	**2,258,100**	**2,258,200**	**2,436,200**	**2,189,300**	**2,400,600**

FADS – Funds available for debt service. D&A – Depreciation and amortization.
Source: Fitch Ratings, Fitch Solutions, Lumesis, EIA, Bonneville Power Administration, Oregon.

Key Definitions

Terms	Definition	Significance
Issuer Default Rating (IDR)	An expression of overall enterprise risk and relative vulnerability to default.	Provides an opinion of the relative ability of an entity to meet financial commitments, expressed as an ordinal measure of credit risk.
Standalone Credit Profile (SCP)	An expression of overall enterprise risk.	Provides an opinion of the credit quality of an entity on a standalone basis, irrespective of its relationship with, or the credit quality of, its related municipality.
Net Adjusted Debt	Adjusted debt – unrestricted cash – funds restricted for debt service	Provides an inclusive evaluation of long-term liabilities offset by funds available for debt service.
Adjusted FADS	EBITDA + interest income + 30% of purchase power expense + operating lease expense – transfers/distributions + pension expense	Provides an indication of cash flow available for the payment of debt service, adjusting for purchased power, operating lease and pension obligations.
Net Adjusted Debt to FADS	Net adjusted debt/adjusted FADS	Provides an indication of net total leverage position against available operating cash flow.
Full Obligations	Cash interest paid + scheduled long-term principal payments + 30% of purchase power expense	Provides an indication of inclusive fixed and debt service obligations.
Coverage of Full Obligations	(EBITDA + interest income + 30% of purchase power expense + operating lease expense – transfers/distributions)/full obligations	Provides an indication of the relative cushion of operating cash flow to fixed charges.
Base Case	The expected forward-looking case in the current macroeconomic environment.	Provides the analytical starting point in the forward-looking analysis, and also informs the stress case.
Stress Case	The potential performance under a common set of assumptions.	Illustrates how cycles affect individual issuers differently, and informs the level of rating stability and credit resiliency.

The ratings above were solicited and assigned or maintained at the request of the rated entity/issuer or a related third party. Any exceptions follow below.

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