Bonneville Power Administration
As of May 5, 2022

Grand Coulee Dam
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Energy Northwest 2022-A/B Bonds

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### BPA at a Glance

#### One Agency with Two Business Units
- Power Services and Transmission Services revenue was approximately $3.8 billion in FY21
- BPA’s customers primarily include utilities throughout the Pacific Northwest

#### Unique Hydro-Based System
- Virtually carbon-free, BPA markets power from 31 federally-owned hydroelectric projects and several Non-Federal projects

#### Funding Sources
- Access to capital through Federal and Non-Federal sources
- Including the $10.0 billion increase received in Nov 2021, BPA has access to a revolving facility to borrow up to $13.7 billion in bonds from the U.S. Treasury, increasing to $17.7 billion in FY28

#### Cost Recovery
- BPA is required by law to establish rates to recover all costs
- FERC reviews and approves rates to ensure that BPA rates recover all costs

#### Non-Federal Payment Priority and Financial Reserves
- Cash payments for Non-Federal debt are met before payments by BPA to the U.S. Treasury
- BPA maintains substantial cash and short-term investment balances in addition to having access to a $750 million U.S. Treasury line of credit for operating expenses

#### Credit Ratings
- Moody’s: Aa2, positive
- S&P: AA-, stable
- Fitch: AA, stable
Marketed Hydro Projects
Columbia River Basin

- Diverse and expansive footprint providing power to 300k square miles served by BPA
- Federal dams in the Columbia River Basin contribute approximately 6,300 aMW of firm energy capacity to the region
- Storage in both Canada and the U.S. allows BPA to meet loads and increase reliability while still supporting multiple statutory purposes including:

  - Flood Control
  - Irrigation
  - Navigation
  - Recreation
97% of Forecast Firm Power is Carbon Emission-free

- **Carbon Emission-Free Federal Hydroelectric**
  - 6,297 MW
  - 84%

- **Carbon Emission-Free Nuclear Columbia Generating Station**
  - 994 MW
  - 13%

- **Contract Purchases and Other Resources**
  - 229 MW
  - 3%

Operating Year 2023 forecast statistics from the 2019 Pacific Northwest Loads and Resources Study, October 2020
## Statutory Guidance

| By Law                      | BPA must establish rates that recover all of its costs  
|                            | BPA must defer its U.S. Treasury payments if required to meet Non-Federal obligations |
| Federal Rate Approval       | The Federal Energy Regulatory Commission (FERC) reviews and approves BPA’s rates to ensure they are sufficient to recover all costs |
| Expedited Rate Case         | Option to initiate an expedited rate case to propose increased rates |
Priority of Payments

- By statute, payments and monetary credits to Non-Federal entities are always met prior to BPA’s payments to the U.S. Treasury.
- All BPA funds, including revenues generated from Power and Transmission, are available to meet Non-Federal costs.

**FIRST**
Payments/Credits other than to the U.S. Treasury

- Non-Federal debt (including BPA-supported bonds issued by Energy Northwest, the Port of Morrow, and the Idaho Energy Resources Authority)
- BPA O&M expenses
- Other
  
  *(No priority implied among Non-Federal payments)*

**SECOND**
U.S. Treasury Payments

- Principal and interest on bonds, as well as the line of credit, with the U.S. Treasury
- Principal and interest to repay federal appropriations that funded capital investments in the Federal System
- Other
## Additional Assurance of Payment

<table>
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<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
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<td><strong>Short-term Credit Facility</strong></td>
<td>- Overnight access to a $750 million line of credit with the U.S. Treasury for operating expenses</td>
</tr>
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</table>
| **Two-year Rate Case**          | - Conduct a rate case every two years to ensure recovery of all costs, including Federal and non-Federal debt service  
- In FY21, BPA made its 38th consecutive U.S. Treasury payment on time and in full                                                   |
| **Reserves Provisions**         | - Provisions to increase rate, without undertaking a formal rate process, if Reserves Available for Risk (RAR) fall below established thresholds |
Federal and Non-Federal Debt Outstanding*

$14.6 billion

Non-Federal Debt

$7.4 billion
51%

- Energy Northwest $5.0 billion
- Lease-Purchase Program $2.0 billion
- Prepaid Power Purchases $0.2 billion
- Non-Federal Facilities $0.2 billion

BPA evaluates current and forecast leverage ratios to determine if any rate action needs to be taken to maintain the 75%-85% leverage target through FY28 with a long-term target of 60%-70%.

Borrowings from U.S. Treasury

$5.6 billion
38%

- Authorized borrowing availability increased from $7.7 billion to $13.7 billion in Nov 2021 and will increase to $17.7 billion in FY28. Facility is revolving

Federal Appropriation Repayment Obligations

$1.6 billion
11%

- BPA repays amounts that have been appropriated by Congress for capital investments in the Federal System

Federal and Non-Federal Debt Outstanding* Based on 9/30/2021 Audited FCRPS Financial Statements
Water Supply

Observed River Run-off (Oct 21 – May 3)

- The majority of the Columbia River Basin water supply comes from precipitation and snowpack in Canada.
- As shown here, the river run-off feeding the basin is currently at or exceeding 90% of normal.
- As of early May, the FY22 water supply forecast is expected to be 93% of the 30-year historical average as measured at The Dalles Dam.
The amount of energy produced by the hydroelectric system above firm energy

Under average water conditions, this amount is estimated to be 1,324 aMW (Operating Year 2023)

Expected sales of seasonal surplus (secondary) energy is an important part of BPA’s ratemaking and risk mitigation

Revenue from seasonal surplus was approximately 15% of BPA’s total FY21 revenues of $3.8 billion. The prior five years have averaged 11% of total revenues
Revenues & Expenses
More Stable than Streamflow

- The relationship of operating revenues to operating expenses has been stable when compared to wide variances in stream-flows and hydro-generation.
- Sales of firm energy and transmission services contribute to the operating revenue stability.

Streamflow data are based on the Operating Year (Aug 1 – July 31) and the financial information is based on the Fiscal Year (Oct 1 – Sept 30).
Financial Reserves

- BPA's total financial reserves fluctuate throughout the year, however, the balance is historically at its lowest point after the annual year-end U.S. Treasury payment.
Financial Reserves

- BPA may defer borrowing for capital construction until the cash is needed. BPA also maintains a $750 million line of credit with the U.S. Treasury.
  - There was no outstanding balance at 9/30/2021

### Year-End Reserves ($Millions)

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Total Financial Reserves</th>
<th>Reserves Available for Risk (RAR)</th>
<th>U.S. Treasury Line of Credit</th>
<th>Days Liquidity on Hand</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>766</td>
<td>568</td>
<td>750</td>
<td>258</td>
</tr>
<tr>
<td>2018</td>
<td>840</td>
<td>551</td>
<td>750</td>
<td>254</td>
</tr>
<tr>
<td>2019</td>
<td>773</td>
<td>484</td>
<td>750</td>
<td>222</td>
</tr>
<tr>
<td>2020</td>
<td>889</td>
<td>708</td>
<td>750</td>
<td>295</td>
</tr>
<tr>
<td>2021</td>
<td>1,056</td>
<td>825</td>
<td>750</td>
<td>284</td>
</tr>
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</table>

Days Liquidity on Hand = (RAR + Available U.S. Treasury Line of Credit) / (Operating Expenses/360)
Non-Federal Debt Service Coverage\(^1\)

<table>
<thead>
<tr>
<th>($millions excluding ratios)</th>
<th>FY19</th>
<th>FY20</th>
<th>FY21</th>
</tr>
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<tbody>
<tr>
<td>Total Operating Revenues</td>
<td>3,656</td>
<td>3,684</td>
<td>3,823</td>
</tr>
<tr>
<td>Total Operating Expenses(^2)</td>
<td>2,003</td>
<td>1,778</td>
<td>1,996</td>
</tr>
<tr>
<td>Funds Available to meet Non-Federal Debt Service</td>
<td>1,653</td>
<td>1,906</td>
<td>1,827</td>
</tr>
<tr>
<td>Non-Federal Debt Service</td>
<td>338</td>
<td>462</td>
<td>336</td>
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<tr>
<td>Non-Federal Debt Service Coverage Ratio</td>
<td>(4.9x)</td>
<td>(4.1x)</td>
<td>(5.4x)</td>
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- Non-Federal Debt management actions, such as the Regional Cooperation Debt program, have continued to result in higher than historical Non-Federal Debt Service Coverage results

\(^1\)This information is presented in Official Statements for BPA-backed, Non-Federal Debt bond issuances however, BPA’s audited financial statements do not include a similar table

\(^2\)Operating Expenses include the following items from the Federal System Statement of Revenues and Expenses: BPA O&M, Purchased Power, Book-outs, Non-Federal entities O&M-net billed, Non-Federal entities O&M non-net-billed, and the Residential Exchange Program. Operating Expenses do not include certain payments to the Corps and Reclamation
Cyber Security

- Continued enhancements and expansion to operational security through the implementation and monitoring of real time cyber security controls in addition to on-going improvements to our capabilities and situational awareness.

- Continued cultivation of alliances within the federal government to deploy intelligent devices to monitor external threats.

- Subject to mandatory NERC reliability standards including Critical Infrastructure cybersecurity standards.

- Robust cyber security assessment program with 50 employees supporting a 24x7 Cyber Security Operations and Analysis Center to process threat intelligence and threat hunting.

- Columbia Generating Station (Energy Northwest) is regulated by the Nuclear Regulatory Commission requiring a comprehensive cyber security program. Columbia fully implemented all requirements by December 31, 2017.
Vegetation Management and Fire Prevention Program

**Goals**
- System reliability
- Wildfire risk mitigation

**Methods**
- Annual ground patrols
- Semi-annual air patrols

**Results**
- Award winning program
- Compliant with NERC rules
- Successful WECC audits
In the Spring of 2020, BPA published its Wildfire Mitigation Plan

- To prevent our lines and assets from sparking wildfires, and
- To protect our lines and assets from the threat of wildfires

In 2021, the plan was updated to include a Public Safety Power Shutoff procedure to allow for proactive de-energization of lines and facilities

- Due to extreme weather like high winds or low humidity, and
- To protect homes, businesses, property, and emergency responders
BPA markets power from 31 federally-owned hydro projects, Columbia Generating Station, and several other non-federal projects.

This system provides stability, flexibility, and reliability with limited fuel risk.
Bonneville Power Administration

Markets about 28% of the electricity consumed in the region

Over 125 preference customers within the region

$2.9 billion in revenue in FY21

Power Services

John Day Dam
Historical Average PF Preference Rates
Nominal (Actual) and Real (Inflation-Adjusted) Average PF Preference Rate Levels

- Power rates have remained relatively stable, especially on an inflation-adjusted basis

Nominal$ Real 2000$

$Dollars per Megawatt Hour


$PF = Priority Firm Power
Real dollars derived using the BEA Implicit Price Deflator for GDP

23
15k circuit miles of high voltage lines

262 substations

Over 300k square miles of service territory

$1 billion in revenue in FY21
Historical Average Transmission Rates

Nominal (Actual) and Real (Inflation-Adjusted) Historical Firm P2P Rate

- Transmission rates have remained relatively stable on an inflation-adjusted basis

Real dollars derived using the BEA Implicit Price Deflator for GDP
Non-Federal Debt

- Washington State Joint Operating Agency
- Owns and operates Columbia Generating Station (CGS)
- $4.8 billion in BPA-supported obligations outstanding
  - $4.2 billion in tax-exempt bonds
  - $611 million in taxable bonds
  - $49.4 million drawn on lines of credit which will be paid down with proceeds from the 2022-A/B transaction

- Continuing collaboration with Energy Northwest
  - Obligations are fully supported by BPA under existing net billing agreements

- Anticipate issuing up to $2.9 billion in tax exempt net billed bonds between 2022-2030
  - The repayment of the net billed debt is secured by BPA’s financial commitments
Non-Federal Debt – Transmission Issuers

- Oregon port district
- Authorized to finance transmission projects with publicly issued bonds and credit arrangements secured by BPA lease-purchase commitments
- As of 9/30/2021, $1.3 billion in outstanding BPA-supported bonds

- Energy-related financing authority created by Idaho legislation
- Authorized to finance transmission projects with publicly issued bonds and credit arrangements secured by BPA lease-purchase commitments
- As of 9/30/2021, $510 million in outstanding BPA-supported bonds and $81 million in an outstanding line of credit
## Energy Northwest Series 2022-A/B Summary and Schedule

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| **Syndicate**                      | J.P. Morgan, Wells Fargo Securities, BofA Securities, Citigroup        |

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