Overview of BPA’s Finances

November 19, 2019

Marcus Harris, Budget Officer and Manager of Financial Planning and Analysis

Note: this information was made publicly available on November 14, 2019, and contains some information not sourced directly from BPA financial statements.
Agenda

1. Introductions
2. BPA Financial Background
3. Strategic & Financial Plans
4. Q&A
Background - Overview

Transmission Services
- Delivers power between resources and loads within the Region and transmits imports to and exports from the Region.
- Approximately 75% of the bulk transmission capacity in the Region.
- 15,000 circuit miles of high voltage transmission lines and 260 substations and other facilities.
- Approximately $963 million in revenue in FY18.

Power Services
- BPA markets power from 31 federally-owned hydroelectric projects and several Non-Federal projects - virtually carbon-free.
- Provides approximately 27% of the electric power consumed within the Region.
- Primarily serves over 135 Preference Customer utilities (which are qualifying publicly-owned utilities and consumer-owned electric cooperatives) and several federal agencies under contracts through September 2028.
- Approximately $2.8 billion in revenue in FY18.
Background – Transmission Assets

$5.5B NBV in Assets

$500M/yr total capital investment

$264M/yr sustain investment

$332M/yr depreciation

260 Substations

15,000+ Circuit miles of transmission lines

196,500 Acres of right of way

500+ customers

3.5k miles of fiber

300,000+ Square miles service territory

~400 Communications sites
The Federal Columbia River Power System (FCRPS) is a partnership between the US Army Corps of Engineers (Corps), the US Bureau of Reclamation (Reclamation), and Bonneville Power Administration (BPA).

- 31 Powerplants (21 Corps, 10 Reclamation)
- 22,458 MW max capacity
- 196 generating units
- 76,000 GWh of electricity per year
  - $1.9 billion value at 5-year Mid-C market index average
  - Displaces fossil-fired generation that would result in emissions in excess 40 million tons of carbon dioxide per year
    - $1.4 billion benefit based on the EPA’s Social Cost of Carbon.
- Provides balancing and voltage support.
- Funds the protection, mitigation, and enhancement of fish and wildlife.
Background – Power & Transmission Assets

Capital Investment historic and forecast

- The Transmission capital investment profile is transitioning to more sustain capital investments. The prior decade saw more expansion investments predominately for renewable integration.
- Power (Federal Hydro) predominately sustain capital investments with a few upgrades over time.

*Projects Funded in Advance (PFIA). Projects funded by customers where BPA performs the work.*
Background – Power & Transmission Assets

Transmission capital investments are prioritized based upon minimizing total economic costs, a primary factor is reliability.

Power capital investments are prioritized largely by minimizing lost generation risk.

The majority of Power capital investments and O&M are directed to the most economic projects.

Transmission % of annual sustain capital budget

Power % of annual capital budget

<table>
<thead>
<tr>
<th>Power Capital, O&amp;M &amp; Cost of Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset Class</td>
</tr>
<tr>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Main Stem Columbia</td>
</tr>
<tr>
<td>Headwater/Lower Snake</td>
</tr>
<tr>
<td>Area Support</td>
</tr>
<tr>
<td>Local Support</td>
</tr>
<tr>
<td>FCRPS</td>
</tr>
</tbody>
</table>

*Transmission based on SOY 2019, Power based on Integrated Program Review (IPR) 20/21
Background – Transmission Revenue

Total Average Transmission Revenue by Product - FY10 through FY18

- $603.4, 60%
- $231.4, 23%
- $89.3, 9%
- $17.2, 2%
- $4.6, 0%
- $43.9, 4%
- $18.0, 2%

reflected in $ millions

Transmission Services Top 5 Customers (FY18)

<table>
<thead>
<tr>
<th>Customer</th>
<th>Percentage of Sales*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puget Sound Energy Inc. (IOU)</td>
<td>12%</td>
</tr>
<tr>
<td>PacifiCorp (IOU)</td>
<td>10%</td>
</tr>
<tr>
<td>Portland General Electric Company (IOU)</td>
<td>9%</td>
</tr>
<tr>
<td>Powerex Corp. (Power Marketer)</td>
<td>7%</td>
</tr>
<tr>
<td>Avangrid Renewables LLC (Wind Developer)</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td>43%</td>
</tr>
</tbody>
</table>

Graphs reflect BPA's Transmission sales by product, historic transmission rates and largest customers.

- On an inflation adjusted basis, BPA Transmission rates have remained relatively stable.
Background – Power Revenue

**Total Average Revenue by Category - FY13 thru FY18**

- **Firm Power Sales**: $2,084.8, 77%
- **Surplus Sales**: $125.5, 5%
- **Intra-agency Revenues**: $381.7, 14%
- **U.S. Treasury Credits**: $81.6, 3%
- **Miscellaneous Revenues**: $29.2, 1%

Reflected in $ millions

**Power Services Top 5 Customers (FY18)**

<table>
<thead>
<tr>
<th>Customer</th>
<th>Percentage of Sales*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snohomish County PUD No. 1 (Preference)</td>
<td>9%</td>
</tr>
<tr>
<td>Pacific Northwest Generating Cooperative</td>
<td>7%</td>
</tr>
<tr>
<td>City of Seattle, City Light Dep't (Preference)</td>
<td>6%</td>
</tr>
<tr>
<td>Cowlitz County PUD No. 1 (Preference)</td>
<td>6%</td>
</tr>
<tr>
<td>Tacoma Power (Preference)</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33%</strong></td>
</tr>
</tbody>
</table>

On an inflation adjusted basis, BPA Power rates have remained relatively stable and flat with the exception of the time period following the 2001 West Coast Power Crisis.
Net Secondary Revenue

- Net secondary revenues provide an offset to costs in BPA’s nonSlice Power rates
- BPA’s rates are less reliant on net secondary revenue to cover costs today than in the past
Background – Transmission P&L

Transmission FY20 Profit & Loss

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
<th>% Total Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenue</td>
<td>$1,075m</td>
<td></td>
</tr>
<tr>
<td>O&amp;M Expense</td>
<td>$478m</td>
<td>46%</td>
</tr>
<tr>
<td>Transmission &amp; Ancillary Services</td>
<td>$128m</td>
<td>12%</td>
</tr>
<tr>
<td>Other Expenses</td>
<td>-$58m</td>
<td>-6%</td>
</tr>
<tr>
<td>Depreciation and Amortization</td>
<td>$336m</td>
<td>32%</td>
</tr>
<tr>
<td>Net Interest Expense</td>
<td>$164m</td>
<td>16%</td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td><strong>$1,048m</strong></td>
<td></td>
</tr>
<tr>
<td>Net Revenue</td>
<td>$26m</td>
<td></td>
</tr>
</tbody>
</table>

Federal Debt Repayment                            | $200m  |
Non-Federal Debt Repayment                        | $99m   |
Total Debt Repayment                               | $299m  |

- The table above shows BPA’s total cost charged in Transmission rates for FY20.
- $1.048 billion total expenses, 46% O&M, 48% Depreciation and Interest, 6% Other.
- Debt repayment represents 28% of total revenue ($299m/$1075m)
- Interest expense represents 15% of total revenue ($164m/$1075m)

*figures from BPA final rate proposal revised revenue test, FY20
Background – Transmission Program Costs

Transmission IPR Program Costs reflect O&M on the Transmission system.

The graph shows the actual expenditures by program from 2010-2018.

The table to the right labeled CAGR (Compound Annual Growth Rate) shows the average annual percentage growth in these costs over the period. These figures are comparable to inflation.

Transmission Maintenance and Engineering have grown faster than inflation predominately due to increasing maintenance requirements to maintain the aging Transmission assets.
Background – Power Costs

**Power FY20 Profit & Loss**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
<th>% Total Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenue</td>
<td>$2,710m</td>
<td></td>
</tr>
<tr>
<td>O&amp;M Expense</td>
<td>$903m</td>
<td>34%</td>
</tr>
<tr>
<td>Power Purchases &amp; Transmission</td>
<td>$308m</td>
<td>12%</td>
</tr>
<tr>
<td>Fish &amp; Wildlife</td>
<td>$292m</td>
<td>11%</td>
</tr>
<tr>
<td>Residential Exchange &amp; Settlements</td>
<td>$250m</td>
<td>9%</td>
</tr>
<tr>
<td>Conservation</td>
<td>$122m</td>
<td>5%</td>
</tr>
<tr>
<td>Depreciation and Amortization</td>
<td>$518m</td>
<td>19%</td>
</tr>
<tr>
<td>Net Interest Expense</td>
<td>$270m</td>
<td>10%</td>
</tr>
<tr>
<td>Total Expenses</td>
<td>$2,662m</td>
<td></td>
</tr>
<tr>
<td>Net Revenue</td>
<td>$48m</td>
<td></td>
</tr>
<tr>
<td>Federal Debt Repayment</td>
<td>$173m</td>
<td></td>
</tr>
<tr>
<td>Non-Federal Debt Repayment</td>
<td>$269m</td>
<td></td>
</tr>
<tr>
<td>Total Debt Repayment</td>
<td>$442m</td>
<td></td>
</tr>
</tbody>
</table>

*Irrigation Assistance Payment $24m

- The table above shows BPA’s total cost charged in Power rates for FY20.
- $2.662 billion total expenses, 34% O&M, 29% Depreciation and Interest, 20% Fish & Wildlife and Residential Exchange, 17% Other.
- Debt repayment represents 16% of total revenue ($442m/$2710m)
- Interest expense represents 15% of total revenue ($270m/$2710m)

*figures from BPA final rate proposal revised revenue test, FY20
Background – Power Program Costs

- Power program costs reflect BPA's O&M expenses on the generating projects, Fish and Wildlife and Conservation expenses.
- The graph shows the actual expenditures by program from 2010-2018.
- The table to the right labeled CAGR (Compound Annual Growth Rate) shows the average annual percentage growth in these costs over the period. These figures are comparable to inflation.
- The only cost growing materially faster than inflation is Bureau of Reclamation O&M which is predominately related to Grand Coulee Dam. Generation Conservation increased due to a change in accounting from capitalizing the majority of the cost prior to 2016 to expensing all of it.
Background – Debt 9/30/2018

Total: $9.015B
Total: $5.580B

Federal Columbia River Power System (FCRPS)
Total Liabilities to Federal and Non Federal Parties
as of 9/30/2018

<table>
<thead>
<tr>
<th>Generation</th>
<th>Transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liabilities Outstanding</td>
<td>WAI Rate</td>
</tr>
<tr>
<td>1,354.2</td>
<td>3.9</td>
</tr>
<tr>
<td>2,235.6</td>
<td>2.8</td>
</tr>
<tr>
<td>3,569.7</td>
<td>3.2</td>
</tr>
<tr>
<td>BPA Liabilities to Energy Northwest (RCD)</td>
<td>5,094.4</td>
</tr>
<tr>
<td>BPA Liabilities to Other Nonfederal Parties</td>
<td>83.5</td>
</tr>
<tr>
<td>BPA Liabilities for Lease Purchases</td>
<td>2,142.0</td>
</tr>
<tr>
<td>BPA Liabilities for Other Capital Leases</td>
<td>58.7</td>
</tr>
<tr>
<td>BPA Liabilities for Prepay</td>
<td>248.1</td>
</tr>
<tr>
<td>Total Nonfederal Liabilities</td>
<td>5,426.0</td>
</tr>
<tr>
<td>Total FCRPS Liabilities</td>
<td>9,015.7</td>
</tr>
</tbody>
</table>

1/ Federal Appropriation amounts are less than the amount per the FCRPS financial statements because the repayment obligation does not begin until the related assets are placed in service. Appropriation amounts exclude appropriations for construction work in progress (CWIP), which was $171 million in FY 2016. Unspent appropriations received by the COE and BOR as well as some adjustments are also excluded.
2/ Transmission principal is different from the Nonfederal repayment obligation due to: 1) premium bonds issued, 2) timing differences, and 3) transactions costs. Transmission is assigned the repayment obligation for these items which equals the additional Federal repayment made on Transmission’s behalf.
3/ BPA’s liabilities to Energy Northw est are part of the Regional Cooperation Debt Program (RCD), which extends Energy Northwest debt to pay down Federal liabilities or preserve Federal borrowing capacity.

NOTE: This data does not include irrigation assistance commitment of $364 million at zero percent interest as of 2018 year-end.
Background – Liquidity

- Operational Liquidity
  - Financial Reserves
  - US Treasury Line of Credit – specifically for NW Power Act expenses

- Financial Risk Mitigation
  - 2 Year rate periods
  - Tiered Rates
  - Cost Recovery Adjustment Clause (CRAC)
  - Financial Reserves Surcharge

- Net Secondary Revenue reflects BPA’s primary source of financial uncertainty, driven by stream flow and market price volatility. The downside risk to net secondary revenue has been reduced over the past 10 years as wholesale prices have declined.
The Strategic Plan Story

What defines a commercially successful BPA?

- A strong customer base and revenues that recover our costs
- Financial strength to raise low cost capital and weather business disruptions
- High performing assets and system operations that can boost revenues and interface with the modern energy economy
- A skilled, motivated and high performing workforce capable of delivering on our strategy

Core Strategic Goal: Sustain BPA’s role as an engine of the Northwest’s economic prosperity and environmental sustainability through improved business discipline and strong commercial performance

Desired Outcomes: Increased Customer Trust and Confidence; A Modernized BPA Prepared for Industry Change, and Public Responsibilities Delivered Through a Commercially Successful Business
Financial Plan

- Meet statutory requirements
- Follow existing financial policies
- Focus on financial health priorities
  - Cost management
  - Liquidity
  - Debt Utilization
  - Debt Capacity

*Financial Plan issued January 2018
Cost Management Discipline
*Maintain low rates, enhance asset value, and reliability*

• Financial Plan Goal
  – Manage Integrated Program Review (IPR) costs to no more than inflation per year, on average, beginning in BP-20 through BP-26 rate cases.
    • IPR costs include: O&M, Fish & Wildlife, and Energy Efficiency.

• Current Status
  – Final IPR agency costs were $66 million per year below BP-18 spending levels.
    • $56 million from Power Services, $9.5 million from Transmission Services.
    • Major areas of savings were Bureau of Reclamation, Corps of Engineers, and Energy Northwest as well as internally with Fish & Wildlife and Transmission Services.
  – The final IPR expense spending levels were approximately $140 million below inflation.
Cost Management Discipline Continued

*program costs are BPA’s IPR costs
Debt Utilization

Reduce interest expense, maintain financial flexibility

• Financial Plan Goal
  – Decrease debt-to-asset ratio from 90% to 75%-85% by 2028.
  – Long term goal of 60%-70%.
  – Requires the Transmission business line to increase the amount of planned debt repayment and/or increase revenue financing.

• Status
  – The Administrator’s Record of Decision on the leverage policy was issued on September 25.
    • The Transmission BP-20 Initial Proposal includes approximately $26 million for either debt repayment or revenue financing.
  – The Power business line is expected to achieve the leverage policy goals without additional rate action.
FP #2 Debt Utilization continued
Reduce interest expense, maintain financial flexibility

Debt-to-asset ratio, or Leverage
• Ratio of total book value of revenue producing assets to total debt
• Excludes non-revenue producing assets, e.g., Fish and Wildlife, Energy Efficiency

• BPA policy does not allow the debt-to-asset ratio to go up for Power or Transmission. BPA is planning for both Power and Transmission to decline.
• Rate increases will force the ratio to be flat or decline over time, rate increases are especially likely for Transmission in order to hold flat or decline.
• Power’s debt-to-asset ratio is declining naturally because large debt payments as a percent of Power’s total debt are already built into the Power revenue requirement. Power rates will not have to increase to de-lever.
Debt Utilization continued
Reduce interest expense, maintain financial flexibility

• BPA’s total debt has risen slightly since 2008 but declined since 2015.
• The debt increase was primarily a result of building large Transmission expansion projects during the 2009-2015 timeframe (see pg. 6 for capital investments).
Debt Capacity

*Maintain access to secure and low-cost debt financing*

- **Goal**
  - Maintain $1.5 billion in available U.S. Treasury borrowing authority capacity on a rolling 10-year basis.
    - $750 million retained for operational liquidity to manage financial volatility primarily from streamflow and market price uncertainty.
    - $750 million for capital liquidity, to be able to mitigate changes in capital needs, if necessary, as a result of BPA planning decisions or factors outside of BPA’s control (i.e., weather or natural disasters resulting in damage to BPA assets that require unexpected capital investments).

- **Status**
  - At 9/30/19, $2.4 billion of borrowing authority was available out of the $7.7 billion authorized.
  - Continuing to deploy an “all of the above” strategy to identify current and future tools to adequately fund BPA’s future capital investments at the lowest possible cost.
    - These tools include: Revenue financing, Regional Cooperation Debt, Reserves financing, Lease-purchase, additional borrowing authority, authority to issue debt directly to capital markets.
  - Included $26 million/year revenue financing in BP20 Transmission rates.
  - Regional Cooperation Debt extension, providing $3.5 Billion future capital.
Liquidity

*Maintain financial reserves for solvency and stability*

- **Goal**
  - Maintain a minimum of 60 days cash on hand for each business line, and maintain a 97.5% annual Treasury payment probability.

- **Status**
  - BPA established a final financial reserves policy by issuing the Administrator’s Record of Decision on September 25th.
    - The policy allows an increase to Power and Transmission rates in order to increase cash flow when a business lines’ days cash on hand goes below 60 days. Power can collect up to $40m/year and Transmission $15m/year.
  - The Cost Recover Adjustment Clause (CRAC) remains in effect, which is a secondary rate mechanism that triggers when financial reserves go below $0 with a goal to replenish reserves back to $0 quickly.
  - BPA expects the financial reserves policy to trigger a rate surcharge for Power in the amount of $30 million for FY20.
  - BPA expects the financial reserves policy to rebalance Power and Transmission reserves to appropriate levels over time.
FP #4 Liquidity continued

Maintain financial reserves for solvency and stability

The graph shows historic and forecast financial reserves for risk. Forecast shows expected value results and is based upon BPA’s final rate proposal and BPA’s Financial Reserves Policy. The Financial Reserves Policy will force a gradual increase in Power’s financial reserves, maintaining Transmission financial reserves, and an increase in the Agency’s overall reserves over time. The Financial Reserves Policy combined with the CRAC have the ability to increase financial reserves quickly if necessary due to extraordinary financial events.
Credit Ratings

• **Fitch – AA Stable**
  – Operating costs are very low, largely due to a predominantly hydroelectric generation fleet. Capital needs relate to reinvestment in the again power-generation assets and transmission investments across the six-state service area.
  – Bonneville’s financial profile is very strong, although highly leveraged. Given planned capex and debt issuance, Fitch expects leverage to decline slightly over the next five years, further supporting the ratings. Variability is likely in the short term as a result of variable hydroelectric sales, and is considered in the rating. Liquidity is adequate with the proposed reallocation of reserves and implementation of a financial-reserves policy.  

• **Moody’s Aa1 Negative**
  – In 2018, BPA published a new strategic plan that represent a positive step towards creating objectives for leverage and US treasury line availability that did not exist before. The current plan seeks a debt ratio in the 75% to 85% range through 2028, maintaining $1.5 billion of US treasury line availability, and incorporates BPA’s reserve targets ranging from 60 to 120 days. However, the implementation of the new strategic goals in the FY2020-2021 rate proposal mostly lessens the decline of BPA’s credit quality and generally does not revers the trend of BPA’s weakening financial strength that has occurred since 2015. Additionally, not all aspects of BPA’s strategic plan are credit supportive such as the continued extension of ENW’s nuclear debt.  

• **Standard & Poor’s, AA- Stable**
  – The rating reflects S&P’s view of: Bonneville’s status as a federal agency and ongoing support through federal loans and credit lines. An exceptionally broad and diverse service territory supports the revenue stream. Tiered rates underlying the customer contracts help shield BPA from market volatility by assigning to customers the costs of their energy needs that exceed their allotments of capacity from the federal hydroelectric projects and CGS. BPA’s capital spending program is important to maintaining the integrity of its generation fleet and managing forced outage incidents. Bonneville and ENW project substantial capital needs that could add to both organizations debt and consume BPA’s Treasury borrowing authority. The utility uses nonfederal financing arrangements, including leases and energy prepayments by its customers, to help preserve federal borrowing capacity.  

1/ Excerpts from Fitch’s rating report, page 2
2/ Excerpts from Moody’s rating report, page 7
3/ Excerpts from S&P’s rating report, pages 3 & 4