

McCULLOUGH RESEARCH

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Subject: FY 2019 Update: Privatization of Bonneville Power Administration's Transmission Assets

The Trump administration has included the privatization of the Bonneville Power Administration's assets in its budget proposal for FY 2019. In doing so has in effect proposed a transmission cost increase for BPA's customer ranging from 24% to 40% depending on whether FERC would recognize an increase in rate base to reflect purchased price.

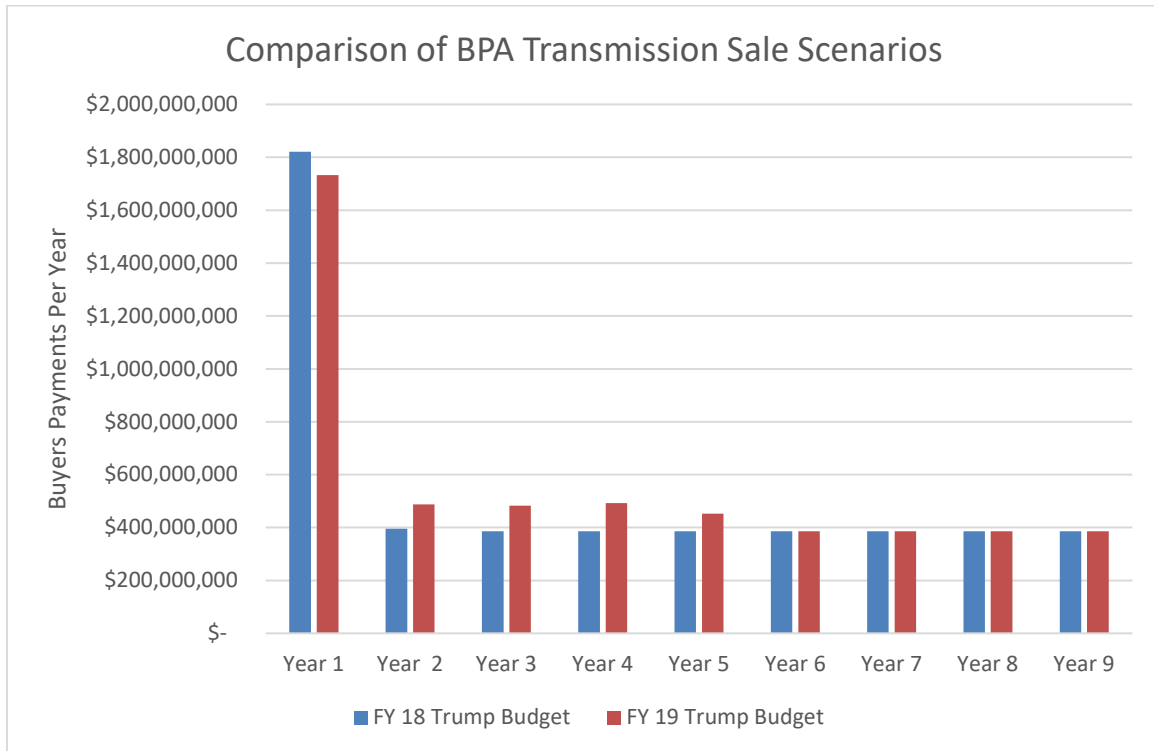
Unlike last year, the budget contains a narrative describing the proposed sale:

Proposes to Divest Federally Owned and Operated Transmission Assets and Authorize the Power Marketing Administrations (PMAs) to Charge Market Based Rates for Power.

The Budget proposes to sell the transmission assets owned and operated by PMAs, including those of Southwestern Power Administration, Western Area Power Administration, and Bonneville Power Administration. The Budget also proposes to authorize PMAs to charge rates based on comparable rates charged by for-profit investor-owned utilities, rather than being limited to cost-based rates, for electricity. The vast majority of the Nation's electricity needs are met through investor owned utilities. Reducing or eliminating the Federal Government's role in electricity transmission infrastructure ownership—thereby increasing the private sector's role—and introducing more market-based incentives, including rates, for power sales from Federal dams, would encourage a more efficient allocation of economic resources and mitigate risk to taxpayers.¹

¹ An American Budget, Office of Management and Budget, February 2018, page 48.

Like last year, the proceeds from the sale are detailed and do not reflect the underlying economics of the assets. However, the price on a present value basis has increased approximately 5%. The unexplained detail would seemingly represent ongoing discussions with an undisclosed buyer.



The narrative in the proposed budget displays a severe lack of understanding about the process of setting transmission rates. Moreover, it contains an odd assumption that transmission rates are systematically higher for investor owned utilities. Since transmission rates are regulated, the regulated rates actually depend on original cost depreciated which varies line by line regardless of ownership.

Last year, McCullough Research authored a memo titled “Privatization of Bonneville Power Administration’s Transmission Assets” as a response to the Trump administration’s proposal to sell off BPA transmission assets. The end premise of that memo stated that, if the proposal were fully enacted, Northwest ratepayers would be left with a 26-44% increase in transmission rates. Thankfully, 2017 came and went with no such scheme being executed. However, on February 12, 2018, the White House Fiscal Year 2019 budget revived this idea for the sale of these public assets. The proposed revenues from the sale are only 80.4% of the value of the assets being sold. This raises the question of why these valuable assets would be sold at a discount – and who would get the benefit of the discounted price.

Basic Economics:

The sale would increase transmission rates by up to 40%. Under a less likely scenario, the Federal Energy Regulatory Commission (FERC) might be convinced to reduce the regulatory value, or rate base, to the proposed price of the sale. Even this optimistic scenario results in a transmission rate increase of nearly 24%. The cost to ratepayers is likely to be \$511 million just for 2020.

The Trump administration's FY 2019 budget represents a dramatic shift from the preceding administration. Included in the budget is a plan to divest assets from three Power Marketing Administrations (PMA), including BPA. BPA serves the greater Pacific Northwest region, encompassing 300,000 square miles and over 13.5 million people.² It is wholly funded by the revenues it generates by operating roughly 75 percent of the Pacific Northwest's transmission lines, delivering power at-cost.³ Under the Trump budget, BPA's transmission infrastructure assets would be sold to unidentified investors.⁴ The FY 2019 budget projects \$4.9 billion in revenue from the sale between 2018 and 2027, with \$1.8 billion coming in 2019.⁵

The proposed revenues from the sale of BPA are only 80.4% of the value of the assets being sold. BPA's 2017 Annual Report cites the system's original cost at roughly \$9.53 billion, with an accumulated depreciation of nearly \$3.16 billion, putting its depreciated value at \$6.37 billion.⁶ It is unclear how this will impact the regulatory value of the transmission assets. FERC may reduce the rate base of the transmission assets from \$6.37 billion to the proposed sale price of \$5.2 billion. In either case, privatization will increase transmission rates. If the rate base were maintained at \$6.37 billion, the sale of BPA would increase transmission rates by 40%, with a FY 2020 rate impact of \$511 million. If the rate base were reduced to \$5.2 billion, privatization would increase transmission rates by 24%.

² Bonneville Power Administration (BPA). "BPA FY 2016 Facts." April 2017.

<<https://www.bpa.gov/news/pubs/GeneralPublications/gi-BPA-Facts.pdf>>. See page 3.

³ The Public Power Council. "Proposal to Divest Transmission of Power Marketing Administrations." May 2017. <<http://www.ppcpx.org/wp-content/uploads/05-23-2017.pdf>>.

⁴ The White House. "Fact Sheet, 2018 Budget: Infrastructure Initiative." See page 3.

<https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/fact_sheets/2018%20Budget%20Fact%20Sheet_Infrastructure%20Initiative.pdf>.

⁵ Office of Management and Budget. "Budget of the U.S. Government: A New Foundation For American Greatness, Fiscal Year 2018."

<<https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/budget.pdfhtml>>. See page 34.

⁶ BPA. "2016 Annual Report." 2016. <<https://www.bpa.gov/Finance/FinancialInformation/AnnualReports/Documents/AR2016.pdf>>.

The White House has proposed selling off PMAs twice, under presidents Reagan and Clinton. In the mid-1990s the Republican-led House of Representatives proposed the same policy.⁷ Each attempt was unsuccessful. BPA is popular across the political aisle in the area it serves. Although the push to privatize BPA is not new, it has provoked swift condemnation from a number of organizations and politicians, including Oregon Senator Ron Wyden, Washington Senator Maria Cantwell, the Portland-based Public Power Council, and Seattle-based NW Energy Coalition.^{8,9,10}

BPA's transmission assets are paid for directly by the rates it charges its customers. Consequentially, its sale would constitute a redistribution of wealth from Northwest residents to the United States Treasury. Further concerns include the possibility that private enterprises would neglect unprofitable rural areas and fail to provide the level of maintenance and low rates they currently receive from BPA.

Most importantly, privatization of BPA would increase costs for consumers. BPA currently sells and delivers its power at cost; under a private regime, an investor-owned utility would likely charge a higher rate of return.

The rate of return is set in a rate case and is a component of a firm's revenue requirement. The revenue requirement is set by a simple formula, a version of which is published in Charles Phillips' classic monograph *The Regulation of Public Utilities: Theory and Practice*.¹¹ The formula is as follows:

$$R = O + (V - D)r$$

where R is the total revenue required,
 O is the operating costs,
 V is the gross value of the tangible and intangible property,
 D is the accrued depreciation of the tangible and reproducible property (as distinct from depreciation as an operating expense),
 and r is the allowed rate of return.

⁷ Russell, Sam Radtke. "No Easy Task to Shift the Balance of Power." CQ Weekly. May 26, 2012. <<http://public.cq.com/docs/weeklyreport/weeklyreport-000004095161.html>>.

⁸ Senator Ron Wyden. "Wyden: Administration's Budget Proposal 'A Cynical Assault on American Ideas.'" Press Releases. May 23, 2017. <https://www.wyden.senate.gov/news/press-releases/wyden-administrations-budget-proposal-a-cynical-assault-on-american-ideas_>.

⁹ The Public Power Council. "Proposal to Divest Transmission of Power Marketing Administrations". May 23, 2017. <<http://www.ppcpdx.org/wp-content/uploads/05-23-2017.pdf>>.

¹⁰ NW Energy Coalition. "NWEC condemns BPA divestiture proposal." May 23, 2017. <<http://www.nwenergy.org/uncategorized/nwec-condemns-bpa-divestiture-proposal/>>.

¹¹ Phillips, Charles F. "The Regulation of Public Utilities: Theory and Practice." Public Utilities Reports. 1988. <<https://www.fortnightly.com/regulation-public-utilities>>. See page 169.

This formula and its components allow for comparison of utilities' operations. Consider the rates of return r for BPA and another Northwest transmission operator, PacifiCorp. Based on its 2017 Annual Report and 2018 Transmission Revenue Requirement Study, BPA will have a rate of return of 3.71% in FY 2020.^{12,13,14} PacifiCorp, a private entity, has a rate explicitly set at 7.53%.¹⁵ This is over twice the rate of return on transmission that BPA earns – even before considering income taxes. As a government entity, BPA does not pay income taxes, and thus the costs are not passed through to Northwest consumers.

Notably, the Trump administration's proposed sale price of \$5.2 billion is below the current depreciated value of the transmission assets. The 2017 Annual Report cites the system's original cost at roughly \$9.5 billion, with an accumulated depreciation of nearly \$3.16 billion, putting its depreciated value at \$6.37 billion.¹⁶ In regulatory terms, \$6.37 billion represents the rate base, or $(V - D)$. Since the proposed sale price is less than the original cost depreciated, a primary question is whether FERC would reduce the allowed rate base to the sale price of \$5.2 billion.

It is possible to estimate the effect of privatization on transmission rates using BPA's operating costs and an allowed rate of return similar to a private utility's. Assume that a privatized BPA would adopt a rate of return r at a value similar to PacifiCorp's 7.53%. In addition, the rate r would include an adder for taxes; as a government entity, BPA does not currently pay federal taxes, but a private entity would. Income taxes are estimated to add approximately 3.27% to the required rate of return r , giving an effective rate of 10.79%.^{17,18} Applying the revenue requirement equation, we have $R = O + (V - D)r$, where $O =$

¹² BPA. "2016 Annual Report." 2016. <<https://www.bpa.gov/Finance/FinancialInformation/AnnualReports/Documents/AR2016.pdf>>.

¹³ BPA. "BP-18 Rate Proceeding: Transmission Revenue Requirement Study." November 2016. <<https://www.bpa.gov/secure/Ratecase/openfile.aspx?fileName=BP-18-E-BPA-09+Transmission+Revenue+Requirement+Study.pdf&contentType=application%2fpdf>>.

¹⁴ FY 2019: (\$157.689 million + \$28.130 million) divided by (\$9,088.9 million – \$2,963.5 million) yields 3.03%.

¹⁵ PacifiCorp. "2017 Transmission Formula Rate Annual Update." FERC Docket ER11-3643. Submittal 20170515-5076. May 15, 2017. See line 126.

¹⁶ BPA. "2016 Annual Report." 2016. <<https://www.bpa.gov/Finance/FinancialInformation/AnnualReports/Documents/AR2016.pdf>>. See page 61.

¹⁷ PacifiCorp. "2017 Transmission Formula Rate Annual Update." FERC Docket ER11-3643. Submittal 20170515-5076. May 15, 2017. See line 126.

¹⁸ State and federal income taxes are assumed at 40% in the BPA transmission area. To calculate the rate of return r for taxes, we collect $1 / (1 - \text{Tax Rate})$ to arrive at the required rate of return. PacifiCorp's return on equity (ROE) of 9.8% is taken from its 2017 Transmission Formula Rate Annual Update; taxes are only paid on equity. The company would collect $(0.098) / (1 - 0.4) = 16.33\%$ to earn the 9.8% it requires. The tax component is thus $16.33\% - 9.8\% = 6.53\%$; this figure is reduced by half because equity is approximately half of the capital structure, yielding 3.27%. Passing income taxes on to consumers is one of the adverse effects of privatization.

\$878.997 million, $(V - D)$ is \$6.370 billion, and r is 10.79%.^{19,20} We arrive at a revenue requirement R of approximately \$1.566 billion, which is 40% higher than BPA's projected FY 2019 revenue requirement of \$1.069 billion.²¹ If we instead assume a rate base $(V - D)$ at the sale price of \$5.2 billion, we arrive at a revenue requirement of \$1.378 billion, which is 24% higher than BPA's projected FY 2019 revenue requirement. This translates directly to an increase in transmission rates.

Market Power:

The very nature of electric transmission makes it ill-suited for privatization. Transmission and distribution constitute a natural monopoly, since they are most efficiently performed by a single transmission line or network of lines in a given area.^{22,23} In general, efficiency gains from privatization are only realized when there is market competition. Selling BPA's transmission assets would create smaller private monopolies in its footprint, and thus not yield efficiency gains. Fragmentation of transmission ownership in the region could lead to disruptions in the Northwest transmission system as a whole.

Already, Northwest utilities have been judged as exercising market power. In June 2016, FERC ruled that PacifiCorp wielded horizontal market power and required it to revise its rates.²⁴ Given past and current FERC interventions, there is strong potential that privatization of BPA's transmission system would allow for further anti-competitive behavior among transmission operators.

The sale of the region's backbone transmission system would pose unique challenges in the area of market power. FERC Order 888 set strong rules intended to curtail market power for the nation's transmission owners.²⁵

¹⁹ BPA. "2016 Annual Report." 2016. <<https://www.bpa.gov/Finance/FinancialInformation/AnnualReports/Documents/AR2016.pdf>>. See page 61; the depreciated value of BPA's transmission assets is \$9.0889 billion - \$2.9635 billion.

²⁰ BPA. "BP-18 Rate Proceeding: Transmission Revenue Requirement Study." November 2016. <<https://www.bpa.gov/secure/Ratecase/openfile.aspx?fileName=BP-18-E-BPA-09+Transmission+Revenue+Requirement+Study.pdf&contentType=application%2fpdf>>. See Table 3, line 9 for FY 2019 operating expenses of \$883.386 million.

²¹ Ibid. See Table 3, line 25 for total revenue requirement.

²² Michaels, Robert J. "Vertical Integration: The Economics that Electricity Forgot." *The Electricity Journal* 17(10). <<http://www.sciencedirect.com/science/article/pii/S1040619004001368>>. See page 12.

²³ Tomain, Joseph P. "The Persistence of Natural Monopoly." *Natural Resources & Environment* 16(4). Spring 2002. <<http://www.jstor.org/stable/40924211>>. See page 242.

²⁴ Federal Energy Regulatory Commission (FERC). "Order on Response to Show Cause Order." 155 FERC ¶ 61,249. June 9, 2016. <<https://www.ferc.gov/CalendarFiles/20160609175136-ER10-2475-006.pdf>>.

²⁵ FERC. "Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities." 75 FERC ¶ 61,000. April 24, 1996. <<https://www.ferc.gov/legal/maj-ord-reg/land-docs/order888.asp>>.

Since the nation's largest electric market hub lies within the BPA transmission system, the temptation for the new owner to profit from transmission schedule information or by restricting transmission is enormous. While FERC Order 888 has been generally successful, transmission violations of the market power rules have been frequent.²⁶ During the California Energy Crisis, many of Enron's most successful exploits involved congesting critical pathways in Oregon, Arizona, and California. Similar schemes have also been present in Texas, New York, and a variety of other states.

FERC surveillance and enforcement has been more effective in recent years, but surveillance of such a complex system as BPA's is likely to be problematic. Even if the rules in Order 888 are followed, a number of issues would have to be addressed:

1. **Transparency:** BPA currently is significantly more transparent than almost any other transmission provider in the United States. Under new ownership, information necessary to the smooth operation of the Mid-Columbia market hub might be curtailed.
2. **Market Share:** Access to transmission might significantly reduce the number of participants in the Mid-Columbia market.
3. **Efficiency:** BPA is a signatory to the coordination agreement, and a number of other contracts and treaties might be disrupted by turning transmission access over to a third party.

These issues go beyond the structure of FERC market surveillance and would require a massive change in current regulations.

Conclusion:

Privatizing the Pacific Northwest's largest transmission system, and selling it at a loss, would be detrimental to ratepayers across the region. Transmission rates would increase by an estimated 24% to 40%, which would be passed directly to both industrial and residential consumers. Selling BPA's transmission assets would also result in market power, anti-competitive behavior, and poor service to rural locations. Politicians, industry groups, and ratepayers are correct to criticize this proposal.

²⁶ Order No. 888: Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities