The Power Marketing Administrations: Background and Current Issues

March 1, 2019
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The federal government, through the Department of Energy, operates four regional power marketing administrations (PMAs), created by statute: the Bonneville Power Administration (BPA), the Southeastern Power Administration (SEPA), the Southwestern Power Administration (SWPA), and the Western Area Power Administration (WAPA). Each PMA operates in a distinct geographic area. Congressional interest in the PMAs has included diverse issues such as rate setting, cost and compliance associated with the Endangered Species Act (ESA; P.L. 93-205; 16 U.S.C. §§1531 et seq.), and questions of privatization of these federal agencies.

In general, the PMAs came into being because of the government’s need to dispose of electric power produced by dams constructed largely for irrigation, flood control, or other purposes, and to achieve small community and farm electrification—that is, providing service to customers whom it would not have been profitable for a private utility to serve. With minor exceptions, these agencies market the electric power produced by federal dams constructed, owned, and operated by the U.S. Army Corps of Engineers (Corps) and the Bureau of Reclamation (BOR). By statute, PMAs must give preference to public utility districts and cooperatives (e.g., “preference customers”), and sell their power at cost-based rates set at the lowest possible rate consistent with sound business principles. The Federal Energy Regulatory Commission regulates PMA rates to ensure that they are set high enough to repay the U.S. Treasury for the portion of federal facility costs allocated to hydropower beneficiaries.

With energy and capacity markets changing in the western United States (especially with the growing need to integrate increasing amounts of variable renewable sources), and the development of the Energy Imbalance Market in the west, BPA and WAPA may have to adapt their plans with regard to generation needs and how transmission systems are developed.

In 2018, the Trump Administration proposed to sell the transmission assets (lines, towers, substations, and/or rights of way) owned and operated by the federal Power Marketing Administrations. The proposal suggested that “eliminating or reducing” the federal government’s role in owning and operating transmission assets, and increasing the private sector’s role, would “encourage a more efficient allocation of economic resources and mitigate unnecessary risk to taxpayers.” The resulting PMA entities would then contract with other utilities to provide transmission services for the delivery of federal power, similar to what SEPA does currently. Reportedly, the proposed sale of PMA assets was dropped after opposition to the plan emerged from stakeholders. Under section 208 of the Urgent Supplemental Appropriations Act, 1986 (P.L. 99-349), the executive branch is prohibited from spending funds to study or draft proposals to transfer from federal control any portion of the assets of the PMAs unless specifically authorized by Congress.

Environmental, fishing, and tribal advocates have sued the federal government over concerns that operating rules for hydropower dams on the Columbia and Snake Rivers (i.e., the National Marine Fisheries Service Biological Opinion) are inadequate to ensure survival of species threatened or endangered under the ESA. In 2016, a federal judge overturned a previous management plan for the dams, finding that it would not be sufficient to protect salmon runs, and ordered a new management plan that could include removing the dams. However, in 2018, President Trump issued a Presidential Memorandum accelerating the process for a new management plan, requiring the biological opinion to be ready by 2020.

Since FY2011, power revenues associated with the PMAs have been classified as discretionary offsetting receipts (i.e., receipts that are available for spending by the PMAs), thus the agencies are sometimes noted as having a “net-zero” spending authority. Only the capital expenses of WAPA and SWPA require appropriations from Congress.
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Introduction

The federal government, through the Department of Energy, operates four regional power marketing administrations (PMAs), created by statute: the Bonneville Power Administration (BPA), the Southeastern Power Administration (SEPA), the Southwestern Power Administration (SWPA), and the Western Area Power Administration (WAPA). Each PMA operates in a distinct geographic area of the coterminous United States (see Figure 1). Congressional interest in the PMAs has included diverse issues such as rate setting, cost and compliance associated with the Endangered Species Act (ESA; P.L. 93-205; 16 U.S.C. §§1531 et seq.), and questions of privatization of these federal agencies.

In general, the PMAs came into being because of the government’s need to dispose of electric power produced by federal dams constructed largely for irrigation, flood control, or other purposes, and to achieve small community and farm electrification—that is, providing service to customers whom it would not have been profitable for a private utility to serve. With minor exceptions, these agencies market the electric power produced by federal dams constructed, owned and operated by the Corps of Engineers (Corps) and the U.S. Bureau of Reclamation (BOR). PMAs must give preference to public utility districts and cooperatives (e.g., “preference customers”), selling their power at cost-based rates set at the lowest possible rate consistent with sound business principles. The Federal Energy Regulatory Commission (FERC) regulates PMA rates to ensure that they are set high enough to repay the U.S. Treasury on schedule for the portion of federal facility costs that have been allocated to hydropower beneficiaries.

Since FY2011, power revenues associated with the PMAs have been classified as discretionary offsetting receipts (i.e., receipts that are available for spending by the PMAs), thus the agencies are sometimes noted as having a “net-zero” spending authority. Only the capital expenses of WAPA and SWPA require appropriations from Congress.

Each PMA also has unique elements and regional issues that affect its business. They are discussed in alphabetical order.

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1 These four PMAs, created between 1937 and 1977, were transferred from the Department of the Interior to the Department of Energy through the Department of Energy Organization Act of 1977, P.L. 95-91. A fifth, the Alaska Power Administration, established in 1967, was sold under authorization of P.L. 104-58.

2 For example, BPA purchases power from the Columbia Generating Station, a 1,100-megawatt (MW) nuclear power plant in eastern Washington. See https://www.bpa.gov/news/pubs/FactSheets/fs-201307-Reinvesting%20in%20assets.pdf.

3 Ibid. “By federal statute, PMAs sell power primarily to preference customers, which largely consist of publicly-owned and cooperative-owned utilities, although small amounts of power are also sold to Indian tribes, federal entities, investor-owned utilities, and some industrial customers.”


Bonneville Power Administration

Created by the Bonneville Project Act of 1937 (16 U.S.C. §832) just before the completion of two large dams in the Pacific Northwest—Bonneville Dam in 1938 and Grand Coulee Dam in 1941—BPA was the first PMA. Though it serves a smaller geographical area, BPA is on par with WAPA (which serves the largest area) in the size of its transmission system. The agency operates and maintains about 75% of the high voltage transmission lines in its service territory, which includes Idaho, Oregon, Washington, western Montana and small parts of eastern Montana, California, Nevada, Utah, and Wyoming. BPA also markets wholesale electricity from 31 federally owned hydropower facilities in the Northwest. These generation facilities are owned both by the Corps and BOR.

BPA differs from the other three PMAs in that it is self-financed: it receives no federal appropriations. Since passage of the Federal Columbia River Transmission System Act of 1974 (16 U.S.C. §838), BPA has covered its operating costs through power rates set to ensure repayment to the Treasury of capital and interest on funds used to construct the Columbia River power system. BPA also has permanent Treasury borrowing authority, which it may use for capital on large projects. This money is repaid with interest, through power sales.

As of 2018, BPA had $5.53 billion of bonds outstanding to the U.S. Treasury, with BPA’s current borrowing authority capped by Congress at $7.70 billion. BPA has also looked at other financing options as it approaches its debt limit, looking at nonfederal debt refinancing, lease-purchases, and other asset management strategies.

Figure 1. PMA Service Territories


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**Notes:** BPA: Bonneville Power Administration; WAPA: Western Area Power Administration; SWPA: Southwestern Power Administration; and, SEPA: Southeastern Power Administration. Both WAPA and SWPA market power in Kansas.

**Current Issues**

BPA has initiated strategies and a financial plan to address a changing power generation and demand market, as it endeavors to meet its mandate for cost-based electric power rates. These plans are outlined in its Strategic Plan for 2018 to 2023, and address goals from financial health to infrastructure modernization.8

**Cost Competitiveness**

Wholesale power prices in the United States are generally trending downward, while BPA’s firm power rates have trended upward.9 BPA repays its funding from the U.S. Treasury largely through electricity sales to customers. While BPA generates its electricity from hydropower (which is traditionally one of the lower cost means of power generation), increasing amounts of renewable electricity from growing wind and solar capacity installations in the Pacific Northwest are challenging BPA’s price competitiveness, and perhaps its ability to repay its debts in a timely manner.10

**Regional Cooperation Debt**

In 2014, BPA entered into the Regional Cooperation Agreement (RCA) with the state of Washington to address the debt of Energy Northwest, a “joint action agency formed by the Washington state legislature in 1957” to manage public power utility costs.11 Energy Northwest owns and operates four electric power generation facilities: White Bluffs Solar Station, Packwood Lake Hydroelectric Project, Nine Canyon Wind Project, and the Columbia Generating Station.

The Regional Cooperation debt is “the issuance of new bonds by Energy Northwest to refund outstanding bonds shortly before their maturities when substantial principal repayments were and are due.”12 According to BPA, this allows for “integrated debt management” for the combined total debt portfolios of BPA and Energy Northwest, with a net effect reducing the “weighted average interest rate and the maturity of BPA’s overall debt portfolio” over the life of the program.13 This refinancing, according to BPA, has enabled BPA to prepay higher-interest rate federal obligations, and has “preserved or restored U.S. Treasury borrowing authority.” However, the debt service of the RCA is “borne by BPA ratepayers through BPA rates.”14

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9 Ibid., p. 35.
12 BPA Annual Report, p. 28.
13 Ibid.
14 Ibid.
BPA estimates that the “aggregate potential principal amount” of RCA refunding through bonds issued in fiscal years 2019 through 2030 could exceed $4.0 billion.15

**Grid Balancing Role and Infrastructure Modernization**

BPA is responsible for maintaining and modernizing the generation and transmission infrastructure of its systems, and preserving and enhancing its physical and cybersecurity. With energy and capacity markets changing in the western United States (especially with the growing need to integrate increasing amounts of variable renewable sources), and the development of the Energy Imbalance Market (EIM)16 in the west, BPA is considering whether to join the EIM, and how this might affect its operations and customers.17

**Dams and Fish Endangerment**

Environmental, fishing, and tribal advocates have sued the federal government over concerns that operating rules for hydropower dams on the Columbia and Snake Rivers (i.e., operations consistent with the National Marine Fisheries Service Biological Opinion) are inadequate to ensure survival of species threatened or endangered under the Endangered Species Act.18 In addition, several environmental groups filed a lawsuit blaming the dams for warm river waters in summer 2015 which resulted in the deaths of about 250,000 adult sockeye salmon migrating up the Columbia and Snake Rivers.19 Some of these parties have sought to remove the four lower dams on the Snake River to ensure survival of some salmon and steelhead species. In 2016, a federal judge overturned a previous management plan for the dams, finding that it would not be sufficient to protect salmon runs, and ordered a new management plan that could include removing the dams.20

However, in 2018, President Trump issued a Presidential Memorandum accelerating the process for a new management plan, requiring the biological opinion to be ready by 2020.21 The memorandum ordered the Secretary of the Interior and the Secretary of Commerce “to appropriately suspend, revise, or rescind any regulations or procedures that unduly burden” water

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16 “The California Independent System Operator’s Energy Imbalance Market (EIM) is a real-time energy market, the first of its kind in the western U.S. EIM’s advanced market systems automatically find low-cost energy to serve real-time consumer demand across a wide geographic area…. EIM also manages congestion on transmission lines to maintain grid reliability, and it makes excess renewable energy available at a low cost to participating utilities rather than forcing generating assets offline…. As the EIM footprint evolves, wheel-through transfers—that is, the process of transmitting power through a balancing authority’s system from generation sources, and to loads, outside of its boundaries—are likely to become more common for participants.” Aaron Larson, “How Does the Western Energy Imbalance Market Work?,” POWER Magazine, October 1, 2018, https://www.powermag.com/how-does-the-western-energy-imbalance-market-work/?printmode=1.
17 BPA Annual Report, p. 9.
20 Ibid.
infrastructure projects so they “are better able to meet the demands of their authorized purposes.” How this will affect the fish endangerment finding is unclear at this time.

Southeastern Power Administration

The Southeastern Power Administration was created in 1950 by the Secretary of the Interior to carry out the functions assigned to the Secretary by the Flood Control Act of 1944 (P.L. 78-534) in 11 states (Alabama, Florida, Georgia, Illinois, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia). SEPA is unique among the four PMAs in two ways. It is the smallest PMA, with just over 40 employees, and, unlike the other three agencies, SEPA does not operate or maintain any transmission facilities, and thus contracts with other utilities for transmitting the federal power it markets to over 12 million consumers.

Current Issues

Southeastern markets approximately 3,400 MW of power produced at 22 multipurpose water projects, operated and maintained by the Corps. SEPA’s facilities are aging; for instance, in 2018 it reported that its Cumberland System customers have agreed to fund $1.2 billion of planned rehabilitations of the nine hydroelectric facilities in the Corps’ Nashville District.

According to SEPA, it has an overcapacity issue. Projections for electricity load growth (in consultation with its preference customers) made before the 2008 economic downturn reportedly led to SEPA acquiring additional capacity it currently does not use. As a result, municipalities and electric cooperatives in SEPA’s service area will have to make economic decisions regarding how to handle this excess capacity. As of 2018, at least one preference customer has terminated its contract with SEPA due to this issue.

Southwestern Power Administration

Section 5 of the Flood Control Act of 1944 (P.L. 78-534) established the Southwestern Power Administration. SWPA markets hydroelectric power in Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas from 24 multipurpose Corps dams with a combined capacity of 2,194 MW. SWPA serves over 100 preference customer utilities with over 8 million end-use customers. The agency manages nearly 1,400 miles of high-voltage transmission lines.

SWPA is the only U.S. electrical balancing area supported solely by hydroelectric generation, and its use of the reservoirs and river systems within the SWPA marketing area must be balanced with flood control and other required uses so that the power needs of its customers can be met. SWPA states that it uses alternative financing and offsetting collection authorities to fund expenses and

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22 Ibid.


24 See https://www.energy.gov/sepa/power-operations/quick-facts.


26 Ibid.
purchase power to help SWPA meet its obligations while minimizing congressional appropriations.27

Current Issues
Periodically, SWPA has been challenged by low water conditions. It has a rain-based water supply—rather than one that is snow-based, like the mountain snowpack water supply of WAPA and BPA—and sells power from a comparatively small reservoir system which stores that water. Extended dry periods sometimes mean that SWPA must purchase replacement power and energy to meet its contractual obligations. This means that SWPA requires congressional authority to use its revenues from power sales over the long-term—across high and low water years.28

Prior year balances have been available to Southwestern so that we are financially prepared and able to achieve rate stability for our customers. This authority is critical to operating our program according to sound business principles. Southwestern’s program is funded by authority to use receipts, alternative financing, and other authorities approved by Congress, including appropriations, which represent only 6.5% of Southwestern’s total program.29

Western Area Power Administration
Created by the Department of Energy Organization Act of 1977 (P.L. 95-91), WAPA is the newest and largest of the PMAs in terms of service area. WAPA’s service area covers 1.3 million square miles, and its power—transmitted by a high voltage grid over 17,000 miles long—serves customers in 15 western states. WAPA markets and transmits hydropower from 56 federal dams operated by BOR, and the Corps. It also sells hydropower produced by facilities administered by the International Boundary and Water Commission, and markets the United States’ 24.3% share (547 megawatts) of the coal-fired Navajo Generating Station in Arizona. In addition to the types of public bodies traditionally served as preference customers by the other PMAs, WAPA has developed a policy to give preference to Native American tribes regardless of their utility status.30

Current Issues
WAPA has been working with other regional entities to address the changing electric power needs of its customers. In 2014, WAPA published its Strategic Roadmap 2024, titled “Powering the Energy Frontier.”31 The document is intended to serve as WAPA’s strategic plan to guide the agency’s actions for the next 10 years.32 However, according to some, the developing Energy Imbalance Market in the West may provide additional options for WAPA to address transmission development needs to balance regional generation and demand.33

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27 Ibid.
29 Ibid.
32 WAPA, Strategic Roadmap 2024.
33 Michael Milligan, Kara Clark, and Jack King, et al., Examination of Potential Benefits of an Energy Imbalance
Transmission Congestion

An issue of continuing importance to WAPA is its role in relieving transmission congestion within its marketing area. There are a number of constrained transmission paths in the West whose limited capacity to transfer power may reduce the ability of utilities to serve electric loads on a seasonal or ongoing basis.

Building Transmission to Access Renewable Energy

In 2009, Section 402 of the American Recovery and Reinvestment Act (P.L. 111-5) amended the Hoover Power Plant Act of 1984 to give WAPA authority to borrow up to $3.25 billion from the U.S. Treasury to pursue transmission projects that integrate renewable generation sources into the electric transmission grid. The law provides authority to construct and upgrade transmission lines to help deliver renewable resources to market. Western created the Transmission Infrastructure Program, also known as TIP, to implement this new initiative. Several transmission projects have been initiated under the program. Previous budget proposals and legislation have proposed repealing WAPA’s loan authority, but to date, none of these proposals have been enacted.

WAPA Region Joins the Southwest Power Pool

In 2015, WAPA’s Upper Great Plains (UGP) region joined the Southwest Power Pool (SPP), a Regional Transmission Organization (RTO). Under the operating agreement with SPP, WAPA was required to transfer functional control of UGP’s eligible transmission facilities to SPP. WAPA is the first PMA to formally join an RTO, and states that benefits to date from joining SPP have significantly exceeded the original estimate of $11.5 million per year. WAPA reports that two of its other regions are considering joining SPP.

Hydrology and Water Power

For Water Year 2017, WAPA reported that it delivered 26,148 gigawatt-hours of hydroelectric power to its customers, which is 101% of average annual power sales.

The West has been experiencing periodic droughts for a number of years resulting in lower snowmelts and less water in storage and available for power generation. To help smooth the

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35 WAPA’s service territory is organized in six regions. “The Rocky Mountain Region covers Wyoming, western Nebraska, western and northern Kansas and Colorado. The Desert Southwest Region covers the southern tip of Nevada, all but the northeast corner of Arizona, and southern California. The Sierra Nevada Region covers northern California and northern Nevada.” See https://www.wapa.gov/regions/Pages/service-map.aspx.
36 See Statement of SWPA Administrator, p. 8.
37 “The term U.S. Geological Survey “water year” in reports that deal with surface-water supply is defined as the 12-month period from October 1 for any given year through September 30 of the following year. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1999 is called the “1999” water year.” See https://water.usgs.gov/nwrc/explain_data.html.
resulting annual differences, a “drought-adder” reduction program has been implemented in recent years.

A drought-adder charge was levied to help repay deferred drought costs accrued during the 2000s in the Rocky Mountain and Upper Great Plains regions. The balance was paid a year ahead of schedule and, as of this year, has resulted in $40 million annual savings for more than 50 percent of WAPA’s customers in Colorado, Wyoming, Montana, Kansas, Nebraska, the Dakotas and the western sections of Minnesota and Iowa. This is the second year that 417 of WAPA’s customers, out of 700, have had a rate reduction.\textsuperscript{39}

The drought-adder component of the rate remains available to WAPA to adjust to the variable hydropower resource—a lasting risk if drought conditions persist in WAPA’s territory.\textsuperscript{40}

Moderate to extreme drought conditions have been reported in parts of the Western United States.\textsuperscript{41}

**Proposed Power Marketing Administration Reforms**

In addition to issues specific to individual PMAs, some recent proposals have applied to multiple PMAs. In 2018, the Trump Administration proposed to sell the transmission assets owned and operated by the federal Power Marketing Administrations.\textsuperscript{42}

The proposal suggested that “eliminating or reducing” the federal government’s role in owning and operating transmission assets and increasing the private sector role would “encourage a more efficient allocation of economic resources and mitigate unnecessary risk to taxpayers.”\textsuperscript{43}

The proposal calls for federal transmission infrastructure assets (lines, towers, substations, and/or rights of way) to be sold, with the private sector and/or state and local entities potentially taking over the transmission functions now provided by the PMAs.

The Federal entities that would result after such sales could contract with other utilities to provide transmission service for the delivery of Federal power just as the Southeastern Power Administration, which does not own transmission lines, already does.\textsuperscript{44}

The proposal reports that according to the Administration’s FY2019 budget justification, the sale of federal transmission assets would result in a net budgetary savings of $9.5 billion, in total, over a ten-year window.\textsuperscript{45}

Reportedly, the administration dropped the plan due to stakeholder opposition, with the Department of Energy stating that such a sale of PMA transmission assets would not proceed unless directed by Congress.\textsuperscript{46}

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\textsuperscript{39} Ibid.


\textsuperscript{43} OPMR, p.66.

\textsuperscript{44} OPMR, p. 67.

\textsuperscript{45} Ibid.

Proposals to sell all or part of the PMAs are not new, and have been made in some form by almost every President since Reagan. However, Congress has sought to prevent executive branch alterations of PMA structures and authority. Under section 208 of the Urgent Supplemental Appropriations Act, 1986 (P.L. 99-349), the executive branch is prohibited from spending funds to study or draft proposals to transfer from federal control any portion of the assets of the PMAs unless specifically authorized by Congress.

The Trump Administration divestment proposal could have had an indirect impact on the original congressional intent for the PMAs to provide electricity at the lowest possible cost. This in turn could require changes to the following provisions:

- Flood Control Act of 1944, as amended (FCA; 16 U.S.C. §825s et seq.);
- The 1937 Bonneville Project Act (BPA; 16 U.S.C. §832c); and
- The Reclamation Project Act of 1939 (RPA; 43 U.S.C. §485h(c)).

These laws also stipulate a preference of public bodies for the sale of federal power. Selling federally-owned transmission assets could potentially affect the “lowest possible” rates of sale, and the statutory preference for publicly- or cooperatively-owned utilities to be the vehicle for sale of electric power produced by federal facilities.

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