BONNEVILLE POWER ADMINISTRATION • 1937–2017

ANNUAL REPORT 2017

EMPOWERING THE NORTHWEST FOR 80 YEARS

CHEERS TO 80 YEARS!

TABLE OF CONTENTS

3 FINANCIAL HIGHLIGHTS

5 ADMINISTRATOR'S LETTER

9 YEAR IN REVIEW

28 PERFORMANCE TARGET RESULTS

31 FINANCIAL SECTION

86 LEADERSHIP

87 OFFICES

The Bonneville Power Administration is a nonprofit federal power marketing administration based in the Pacific Northwest. Although BPA is part of the U.S. Department of Energy, it is self-funding and covers its costs by selling its products and services. BPA markets wholesale electrical power from 31 federal hydroelectric projects in the Northwest, one nonfederal nuclear plant and several small nonfederal power plants. The dams are operated by the U.S. Army Corps of Engineers and the Bureau of Reclamation. The nonfederal nuclear plant, Columbia Generating Station, is owned and operated by Energy Northwest, a joint operating agency of the state of Washington. BPA provides about 28 percent of the electric power used in the Northwest, and its resources — primarily hydroelectric — make BPA power nearly carbon-free.

BPA also operates and maintains about three-fourths of the high-voltage transmission in its service territory. BPA's territory includes Idaho, Oregon, Washington, western Montana and small parts of eastern Montana, California, Nevada, Utah and Wyoming.

BPA promotes energy efficiency, renewable resources and new technologies that improve its ability to deliver on its mission. It also funds regional efforts to protect and rebuild fish and wildlife populations affected by hydropower development in the Columbia River Basin.

BPA is committed to public service and seeks to make its decisions in a manner that provides opportunities for input from all stakeholders. In its vision statement, BPA dedicates itself to providing high system reliability, low rates consistent with sound business principles, environmental stewardship and accountability.

FINANCIAL HIGHLIGHTS

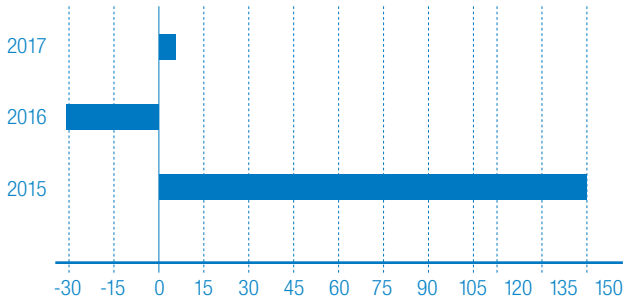
FISCAL YEAR 2017

Federal Columbia River Power System

MILLIONS OF DOLLARS

Total operating revenues	$3,569.8
Total operating expenses	2,984.4
Net operating revenues	585.4
Net interest expense	246.8
Net revenues	$ 338.6
Adjusted net revenues	$ 5.4

Adjusted Net Revenues



Credit Ratings

Moody's	Aa1 with a stable outlook
Fitch	AA with a negative outlook
Standard & Poor's	AA- with a stable outlook

ADMINISTRATOR'S LETTER

It has been 80 years since the Bonneville Power Administration set out to fulfill President Franklin D. Roosevelt's vision, electrify the Pacific Northwest and lower the cost of electricity for all consumers. His bold vision was to provide power at the cost of production, rather than for profit. To this day, Columbia River hydropower remains the backbone of the Northwest's clean-energy economy.

Inspired by Roosevelt's foresight, we celebrated BPA's 80th year through our commitment to carry on his legacy and to overcome the challenges of our time by harnessing new opportunities for the region. We did so by advancing our five priorities, through which we made progress on Bonneville's long-term financial health, cost competitiveness and commercial success. These actions will allow us to continue to deliver the numerous public-purpose benefits of the federal power and transmission systems on which the region so heavily relies.

Internal communications strategy session.

Our People

While the region is powered largely by the mighty Columbia, BPA is powered by its people. Empowering those responsible for Bonneville's success is a foundational element of our strategy. This year we continued to build on progress we've made in recent years to build a safe, positive and inclusive work environment where engaged employees are enabled to deliver on our mission. There are several elements of our strategy, number one of which is safety.

A safe, healthy workforce is an effective workforce. Our goal is to embed safety into everything we do, at work, at home and on the go. Weather extremes in fiscal year 2017 tested our vigilance and highlighted the importance of hazard awareness, even during routine activities. Employees are taking our "see something, say something" approach to heart by submitting a growing number of near-hit safety reports. These reports have led to more than 400 corrective actions in the workplace and prevented others from facing the same hazards.

Another important element of our culture is BPA's Diversity and Inclusion program, which we advanced this year by developing a five-year plan. The Diversity and Inclusion Office vision is a sustainable culture of inclusion where people who look, talk and think differently are valued and can come together to generate innovative solutions that benefit the communities we serve. By increasing our workforce demographic diversity, empowering leadership at all levels and fostering a culture of inclusion, our strategy will strengthen our ability to deliver on Bonneville's mission, provide excellent customer service and remain a competitive power supplier.

Physical Assets

BPA energized its first transmission line in 1938, a 3.5-mile link between Bonneville Dam and Bonneville's first customer, the city of Cascade Locks, Oregon. Eighty years later, BPA has more than 15,000 circuit miles of lines and 260 substations to maintain. Through investments in our transmission assets, we aim to improve reliability and increase the capacity of the grid in the most efficient way to support economic development and meet the needs of the communities we serve.

We also have a tremendous responsibility to prioritize limited funding to achieve the highest value for our customers — not just for our expansive transmission system, but for all of our assets: buildings; vehicles; IT systems; environmental properties, such as hatcheries and land we have acquired and protected; and with our federal partners, 31 hydropower dams. This year we worked

Pacific Direct Current Intertie upgrade project.

closely with the U.S. Army Corps of Engineers and Bureau of Reclamation to further manage operations and maintenance costs for the 31 dams of the federal hydro system, while ensuring we meet our reliability and environmental obligations.

Consistent with industry-leading practices, we are focusing our investments to optimize each asset's full life-cycle value. This year BPA funded projects to refurbish units and extend the life of the two largest hydropower plants in the U.S. — completing the first turbine refurbishment at Grand Coulee Dam's third power plant and enhancing units at Chief Joseph Dam — continuing the legacy of stewardship that has served the region for decades.

Sustainable Finances and Rates

Bonneville's ability to continue meeting its multiple statutory obligations and public-purposes depends on maintaining cost competitiveness and long-term financial health. That guiding principle took center stage as BPA faced a challenging financial year. Mother Nature cooperated with hydropower producers, but energy markets did not.

The volume associated with a near-record water supply could not overcome low natural gas prices and their effect on the price of power in fiscal year 2017. By the end of the second quarter, BPA was forecasting negative end-of-year adjusted net revenues. Power Services expected it would have to draw on an already low supply of financial reserves for risk, eliciting concerns BPA would have to trigger a contract clause that would allow for a one-year power rate increase to recover costs. We took immediate actions to reduce costs and avoid the potential temporary rate increase.

In July, we concluded the BP-18 Rate Case for fiscal year 2018 and 2019 power and transmission rates. We took meaningful steps before the rate case to strengthen our culture of cost management and evaluate our spending. After conducting two public engagement processes and making many difficult decisions, we reduced planned expenses for fiscal years 2018 and 2019. We established an average power rate increase of 5.4 percent, more than half of which is due to elements of our cost structure that are outside of our direct control, such as low market price expectations for sales of surplus power.

Transmission Services, which is less affected by the volatility of power markets, was able to decrease the average transmission rate by 0.7 percent. Looking ahead, however, BPA is expecting to invest significant capital to maintain the federal transmission system, and we will need to closely examine our capital investment strategy to address its impact on future transmission rates.

Reliable, Efficient and Flexible Operations

Since BPA energized its first transmission line, the agency has proudly tallied and touted the miles of new line it built each year. New construction symbolized progress and a continuation of our legacy of rural electrification.

But times have changed. During Bonneville's 80th year, we signaled a shift from relying almost exclusively on new construction to meet the region's transmission needs, to better incorporating more flexible, scalable and economical solutions that reflect the changing needs and interests of the region and the changing reality of energy markets.

This new approach will not always eliminate the need to build new lines, but in May, it was critical to our decision not to build a proposed 80-mile transmission line located primarily along the I-5 corridor in Washington state. Instead, Bonneville will maximize the use of different approaches to grid design to meet the region's load growth and economic development objectives. We began testing one of these approaches in July through a non-wires project that is helping us manage generation and loads to reduce peak

congestion. As BPA evaluates transmission construction in the future, non-wires solutions may play a larger role than they have in the past.

We are also positioning ourselves to take advantage of emerging opportunities to deploy the surplus capability of our clean, flexible hydroelectric resources. These resources could support regional reliability and help meet the growing demand for flexible capacity in the Western Interconnection. We are taking steps to seize on these opportunities in a way that will help us grow our revenues and reduce our operating and capital costs.

The Natural Environment

Environmental stewardship is a central element of BPA's vision.

Hydro operations and structural enhancements for fish are at the core of BPA's stewardship strategy. With the use of targeted, scientifically calibrated spill and the use of new spillway designs, average survival at each of the eight dams in the federal system equipped with fish-passage facilities is on track to meet performance standards of 96 percent for spring and 93 percent for summer migrating salmon. Fish travel times — the time it takes young salmon to travel to the ocean — are almost as short as if the dams weren't there. For impacts that can't be addressed with the hydro system, BPA works to improve conditions for fish and wildlife throughout the basin. BPA funds one of the largest fish and wildlife conservation programs in the nation, working closely with federal, state, tribal and nongovernmental partners on a wide variety of actions throughout the Columbia River Basin to improve conditions for fish and wildlife impacted by the hydro system.

But going forward, there is much uncertainty to account for, including ongoing litigation. In a May 2016 decision from the U.S. District Court for the District of Oregon, the court remanded the National Oceanic and Atmospheric Administration's (NOAA Fisheries) most recent biological opinion, which addresses the impact of the federal hydropower system on endangered salmon and steelhead in the Columbia River Basin, and ordered a new opinion at the end of 2018. This year, we have made progress in developing the actions to provide for NOAA's new biological opinion.

Pratt Creek restoration project. Photo credit: (TNC) Tess O'Sullivan.

We are also responding to injunction orders issued by the court earlier this year, requiring planning for increased spring spill in 2018 and information relating to capital expenditures for the lower Snake River dams. Responding to these changes will place additional operational and fiscal risks on Bonneville that we will need to address.

The court also ordered a new analysis under the National Environmental Policy Act to evaluate and address the environmental effects of the Columbia River System. In collaboration with the Corps of Engineers and Bureau of Reclamation, we launched a regional effort in fiscal year 2017 to engage the public and identify the scope, resources and issues to address in the environmental impact statement. More than 2,300 citizens participated in 18 scoping meetings across the region. Their input is helping us develop preliminary alternatives for evaluation, and we expect to share these preliminary alternatives with the public before the end of the year.

As we develop this new analysis, we continue to do our part to implement the current biological opinion, which has yielded many successes, from providing spring passage spill and restoring spawning and rearing habitat for salmon and steelhead, to protecting critical feeding habitat in the estuary for young fish migrating to sea, and operating dams to encourage the speedy passage of both juvenile and returning adult salmon.

As the Bonneville Power Administration's 80th year comes to an end, I am proud of all we have accomplished to carry on the legacy of BPA's historic mission. Our work is centered around the delivery of hydropower and its many attributes — renewable, clean, reliable — serving nearly 60 percent of Northwest homes and businesses. I look forward to our 81st year, when we will build on our strategy and seize new opportunities for long-term financial and commercial success, ensuring Bonneville remains an engine of the region's economic prosperity and environmental sustainability for generations to come.

Elliot E. Mainzer
Administrator and CEO

YEAR IN REVIEW

10 SAFETY

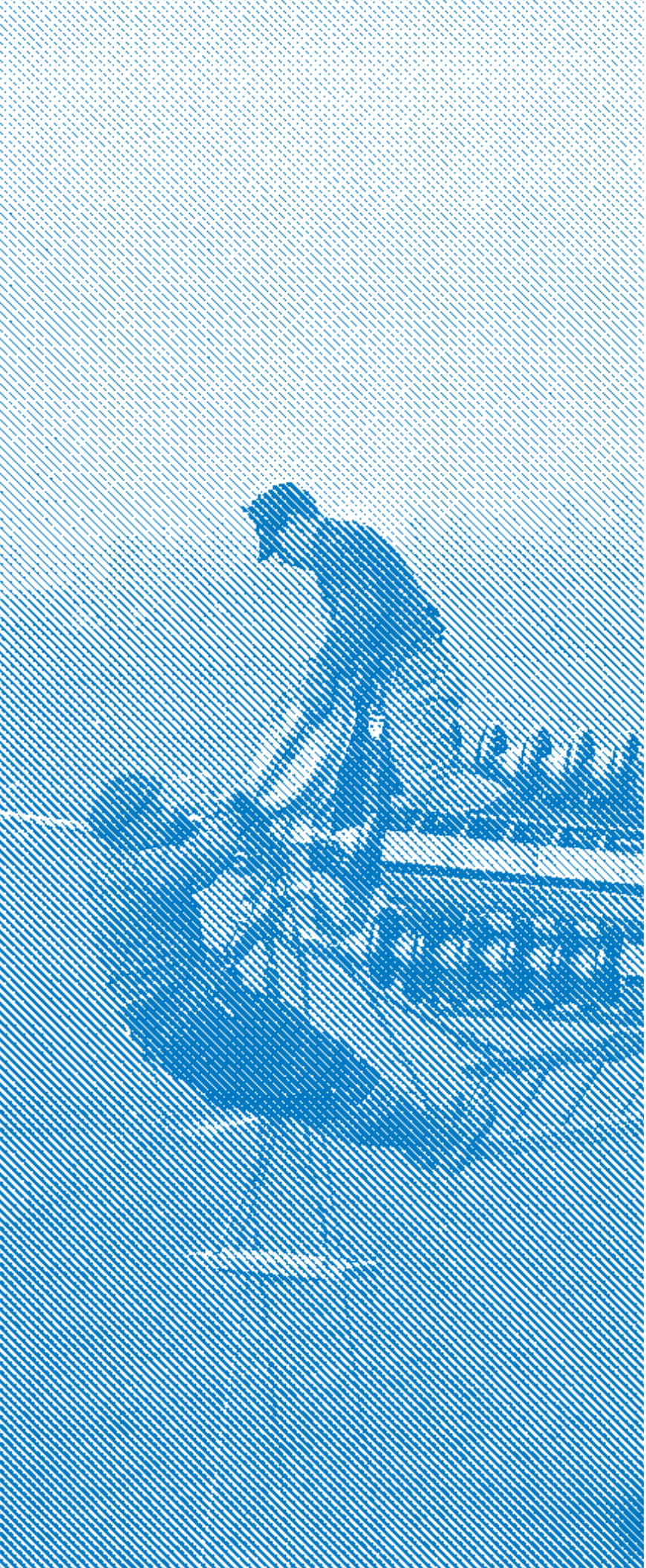
13 FINANCE

16 TRANSMISSION

20 POWER

23 ENERGY EFFICIENCY

24 ENVIRONMENT, FISH AND WILDLIFE



At BPA, we value safety in everything we do. Together, our actions result in people being safe each day, every day. At work, at home and on the go, we all contribute to a safe community for ourselves and others.

"Be Aware When Hazards are There," was the theme of BPA's annual Stand Up for Safety event. The agency went the extra mile to impress upon of its workforce the need to be vigilant and prepare for potential dangers in the workplace and home.

A memorable exhibit was the "slips, trips and falls" simulator, which let employees experience a variety of hazards in a safe environment. According to BPA's Safety Office, slips, trips and falls not only are the leading cause of workplace injuries, they make up a large portion of the injuries occurring at home. The good news is that these injuries can be reduced by teaching people how to navigate uneven or slippery surfaces.

Slip hazard simulator at BPA's Stand Up for Safety event.

Leading indicators to prevent injuries before they happen

BPA workers continue to alert their peers and supervisors to hazardous conditions and close calls in growing numbers. The 193 near hits reported in fiscal year 2017 exceeded last year's numbers by 84 percent. The number of safety concerns reported exceeded last year's numbers by 125 percent.

To help encourage reporting, speaking up and preventing hazards before they lead to injuries, the agency started using its existing recognition program to include recognition for day-to-day safety efforts.

Safety demonstration at BPA.

Cable safety systems reduce tower hazards

Over the last four years, Bonneville has worked to improve the safety of accessing transmission and communication structures. By taking a safety-by-design approach, cable safety systems are being permanently affixed to towers. These systems allow for safe and continuous access to work locations that can require multiple types of personal protective equipment and advanced training. Installing cable safety systems on new structures and retrofitting existing structures allows BPA to meet new Occupational Safety and Health Administration regulations two years ahead of schedule.

At the end of fiscal year 2017, BPA had installed about 200 cable safety systems. Another 350 systems are scheduled for installation in fiscal year 2018. Bonneville's engineering solutions and expertise on this project have been shared with other U.S. utilities and are being used as a template for permanent, fall-protection solutions.

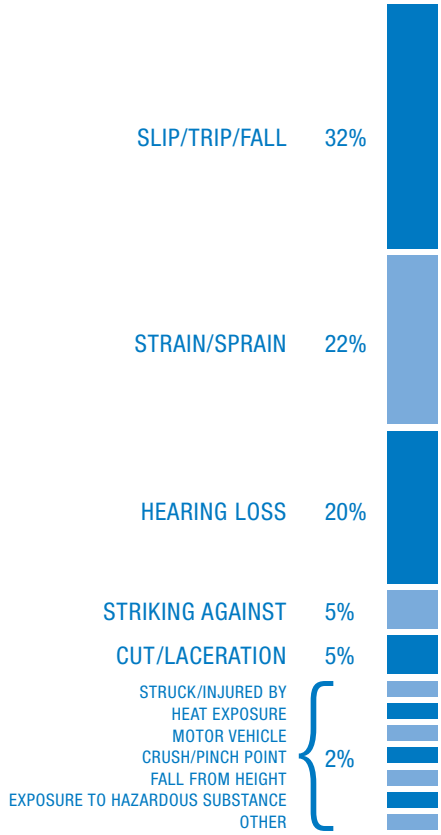
Safety Leadership for Managers and Supervisors

First introduced in 2015, the Safety Leadership for Managers and Supervisors (SLMS) program has been expanded to ensure that every manager and supervisor receives this critical training. It builds on the leadership skills to:

- Promote a strong safety culture.
- Lead and manage safety change.
- Develop subordinates into safety advocates and valued team members.
- Effectively model and practice the "see something, say something" mantra.
- Effectively recognize workplace hazards and develop plans to mitigate them.

Through fiscal year 2017, roughly half of BPA's managers and supervisors have graduated from SLMS. Continuing into fiscal years 2018 and 2019, all BPA managers and supervisors will complete the multi-day training.

"SLMS is truly a One-BPA course," explained Jeff Bartlett, BPA's safety training manager. "It benefits all managers and supervisors, regardless of the environment — office or field — they work in."



SAFETY STATISTICS FOR FISCAL YEAR 2017

BPA had no federal or contractor fatalities in fiscal year 2017. There were 41 recordable injuries for the year. Slips, trips and falls; strains and sprains; and hearing loss were the top three causes of injury at BPA over the fiscal year.

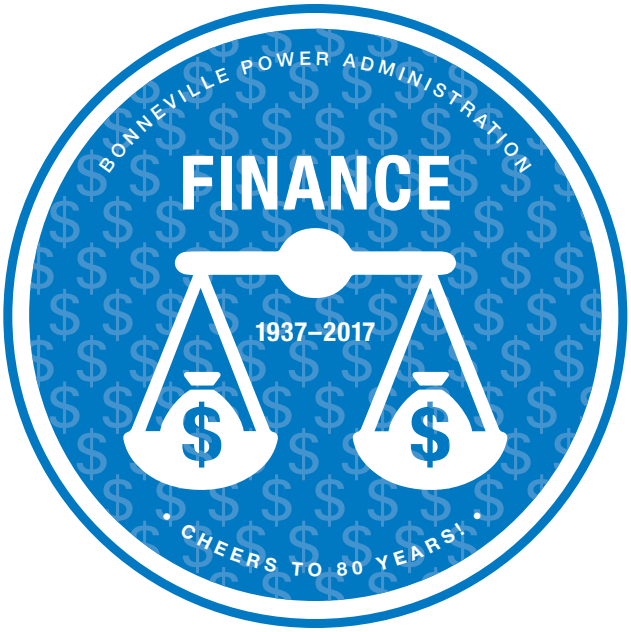
Safety statistics for fiscal year 2017:

- Slip/trip/fall was the highest cause of injury, with 32 percent of the recordable injuries.
- Strains and sprains accounted for 22 percent of recordable injuries.
- Hearing loss accounted for 20 percent of all recordable injuries this fiscal year.

*Total may not equal 100 percent due to rounding.

An entire workforce who identifies, reports and corrects safety issues has the capacity for systemwide impact to mitigate and eliminate hazards, improving work conditions and enabling everyone to go home injury-free.

—Brad Bea, Chief Safety Officer



The region experienced far above average water volume this year due to near-record precipitation — the official January–July water supply volume at The Dalles Dam for 2017 was 137.1 million acre feet, or 135 percent of normal.

It was the eighth-largest January–July volume runoff on record going back to 1928. However, the increase in water for hydropower generation couldn't overcome depressed electricity prices for secondary sales, although BPA ended fiscal year 2017 with positive adjusted net revenues.

Despite a second year of lower-than-expected revenues, we continue to take meaningful steps throughout BPA to strengthen our culture of cost management and bring the rate of programmatic cost escalation under control.

—Mary Hawken, acting Executive Vice President and Chief Financial Officer

Adjusted net revenues, or ANR, is a non-GAAP (generally accepted accounting principles) metric that removes the effects of certain debt-management and rate mitigation actions that do not bear on financial results from operations.

For fiscal year 2017, ANR was $5.4 million. Compared to the BP-16 Rate Case, BPA's end-of-year financial performance is below rate-case expectations. Power modified net revenues (PMNR) was negative $85 million. This was largely due to reduced revenues from lower preference and industrial loads, surplus sales and U.S. Treasury credits. PMNR is also a non-GAAP metric that removes the effects of certain debt-management and rate mitigation actions that do not bear on financial results from operations. Transmission Services' net revenues were $90.5 million, better than anticipated and driven by lower-than-expected expenses.

BPA's financial reserves were $765.7 million, an increase from fiscal year 2016. Financial reserves, a non-GAAP liquidity measure used by BPA management, consists of BPA cash and cash equivalents, investments in U.S. Treasury market-based special securities and deferred borrowing.

BPA establishes Financial Reserves Policy

Financial reserves represent a keystone of BPA's long-term financial health. Financial reserves serve as a risk management tool to meet payment obligations and to provide liquidity to fill financial gaps when expenses are paid before revenues are received, or when expenses are simply greater than revenues.

Financial reserves also play a key role in supporting BPA's credit rating. In August, Moody's and Fitch affirmed BPA's ratings; however, Fitch issued a negative outlook primarily due to Power's low level of financial reserves for risk. BPA requests credit ratings each time BPA-backed debt is sold into the municipal bond market. Accessing these markets cost effectively is critically important to BPA's mission of providing power and transmission services to the region because the agency anticipates the aging assets of the federal power system will require significant investments in the future.

The Financial Reserves Policy adopted in the BP-18 Final Record of Decision will provide both clarity and transparency in the management of financial reserves. It sets upper and lower financial reserves for risk thresholds for Power and Transmission services, based on the metric of days cash on hand, to support BPA's credit rating, promote equity, provide liquidity and rate stability, and ultimately support the agency's long-

Accountants at work on the annual report.

term financial health. Under the policy, BPA will begin rebuilding Power's financial reserves for risk by collecting $20 million above projected net costs each year until the lower threshold is reached. This accounts for one-fifth of the BP-18 power rate increase.

BPA sets rates for fiscal years 2018 and 2019

BPA established a 5.4 percent average increase in power rates and an average 0.7 percent decrease in transmission rates for fiscal years 2018 and 2019. These rates will help modernize the transmission grid, allowing Bonneville to maximize the value of the regional federal power and transmission systems, and better position itself to compete in a rapidly changing electricity industry. These rates also strengthen the agency's finances and demonstrate rigorous cost management, despite costs beyond BPA's direct control placing significant upward pressure on rates.

BPA's rate changes are the average change utilities will see in the price of BPA power and transmission services. The actual change varies depending on a utility's load shape, resource mix and other costs. Before rates are developed, BPA determines the overall costs of its programs and services for the next two years in regional processes called the Integrated Program Review. The purpose of the rate case is to establish rates that ensure BPA will recover those costs.

The rates will be in effect from Oct. 1, 2017, through Sept. 30, 2019. The average wholesale power rate is $35.57 per megawatt hour, an increase of 5.4 percent for the rate period. The rate increase is primarily due to a lower expected demand for power, a declining forecast of surplus power sales revenues due to lower market prices, and escalating costs of programs driven by legal requirements. BPA is committed to continue cost containment and identifying new revenue streams to help alleviate this pressure and help BPA achieve more stable and competitive long-term rates.

BPA's average transmission rate is decreasing in the upcoming rate period due to cost containment and lower interest rate expense. Even with this decrease in rates, BPA needs to address the significant impact of long-term capital costs and develop a sustainable debt management strategy for pending transmission system capital needs.

BPA creates spill surcharge

The BP-18 rates also include a spill surcharge to recover the costs associated with the U.S. District Court for the District of Oregon's ruling in April 2017. The court ordered the parties to develop a plan for increased spill for eight Federal Columbia River Power System dams on the lower Columbia and Snake rivers for the 2018 spring fish passage season. The cost implications of this ruling were not known at the time of rate setting, so BPA adopted a surcharge. The spill surcharge will adjust non-Slice power rates to recover the cost, or lost revenue, associated with increased spill and lost generation relative to the spill assumptions used when setting rates. The spill surcharge will be calculated separately, no later than the end of May in fiscal years 2018 and 2019, based on the planned spill for each year.

The approach BPA adopted gives the administrator discretion to decrease the spill surcharge with program spending reductions, relative to the program spending used for the purpose of setting rates.

BPA continues fulfilling commitment to repay U.S. taxpayers

BPA made its 34th consecutive annual payment to the U.S. Treasury on time and in full. The total payment was $1.3 billion for fiscal year 2017, which ended Sept. 30. The payments are fulfilling BPA's commitment to fully repay U.S. taxpayers with interest for their investment in the Federal Columbia River Power System, or FCRPS.

In addition, BPA continues to optimize its debt portfolio to reduce interest expense, which benefits ratepayers. The repayment included an additional $778.9 million discretionary payment of higher interest-rate appropriations in conjunction with refinancing Regional Cooperation Debt.

Workforce Modernization Initiative

The agency launched a strategy to achieve workforce cost reductions through 2025. The workforce spending reduction is one of the near-term actions being taken to address customers' calls for cost discipline. The new staffing levels reflect a review of the workforce based on a more refined forecast of BPA's ability to welcome new hires net of attrition. This provides a better projection of the total full-time equivalent, or FTE, staff that the agency can actually bring on board. These workforce cost reductions are expense reductions in federal employee staffing.

One of Bonneville's key transmission strategies is to maximize its current infrastructure. BPA is leveraging innovative ways to allow the flow of electricity throughout the region. It requires some physical infrastructure expansion, as well as using a combination of technical tools and new technology to optimize how its existing system is used. This includes using new sources of congestion management, such as power-flow controls and battery storage.

Gaining greater certainty in transmission projects

Bonneville's Asset Management and Program Delivery (AMPD) initiative is improving how Transmission Services identifies, scopes and plans capital projects. The aim is to minimize changes and rework during execution. Given Transmission's significant capital program and the desire for greater rigor in program delivery, AMPD is intended to provide better certainty in the planning and execution of Transmission Services' project portfolio.

I-5 corridor congestion gets a non-wires solution

Last spring, Bonneville determined it would not construct a new high-voltage transmission line, the I-5 Corridor Transmission Reinforcement Project. The construction project was conceived to help provide stability, serve commercial customers along the corridor, provide service to the Portland area and strengthen the grid. But system flow changes and higher costs prompted the agency to take another look at its options.

The original project called for an 80-mile, 500-kilovolt (kV) line from Castle Rock, Washington, to Troutdale, Oregon. After the completion of an environmental impact statement in January 2016, BPA conducted 16 months of engineering studies and concluded it could address reliability issues along the corridor in other ways.

"Given the extensive work we've done with regional partners and others, we are now confident that we can continue to meet the demands on the grid without building this 80-mile line in southwest Washington," explained Richard Shaheen, Bonneville's senior vice president of Transmission Services. "We will increase our reliance on advanced technology, robust regional planning, industry standard commercial practices and coordinated system operations."

We found a different way to solve the I-5 corridor congestion issue. We're taking innovative approaches and are addressing the congestion issue for less cost. It used to be that if you have a power issue, you build a line. I have a whole toolbox — a portfolio of options. We don't live in a world where putting up steel is the only answer.

—Richard Shaheen, Senior Vice President, Transmission Services

The decision was based on a variety of factors:

- **Changing load growth projections.** Once forecast to be three to four percent, load growth is now projected to be one percent in some areas — while flat or negative in others.
- **The impact of renewables.** California's 10,000 megawatts of solar capacity, along with the continued growth in renewables in BPA's balancing authority, have had an impact on flow patterns and how the grid operates.
- **Cost increases.** Project cost estimates escalated over the period of analysis and review.
- **Technology advances.** Flow-control devices and phase synchronizers are tools to help manage the flow of power that weren't available 10 years ago.

There still will be line rebuilds and equipment upgrades throughout the region, including the potential for non-wires products such as batteries and flow-control devices. BPA is also doing more regional planning and working with regional utilities to evaluate other congestion solutions.

Key transmission projects

Bonneville has numerous transmission modernization and reinforcement projects underway to improve reliability, serve new loads and help integrate renewables into the power grid. Some of the notable projects underway in fiscal year 2017 include:

- **Ross-Schultz Fiber Project.** The project replaces and upgrades 365 miles of fiber-optic cable between the Ross Complex and the Franklin and Schultz substations.
- **Tri-Cities Multiple Substation Equipment Replacement.** The project involves replacing important transmission system equipment at 12 substations in Montana, Washington and Oregon.
- **Operational Multi-Gigabit Ethernet Transport.** This ongoing upgrade will provide four times the bandwidth of BPA's current system and is easily expandable. It will be completed in fiscal year 2020.

BPA and CAISO sign coordinated transmission agreement

BPA and the California Independent System Operator (CAISO) signed a coordinated transmission agreement to formalize existing practices and data exchanges, and to better manage energy imbalance market, or EIM, flows on BPA's transmission system.

Parted conductor repair Ashe-Marion #2 500 kv line.

Eagle Creek Fire. Photo credit: Vicky Kieffer.

The EIM is an automated, real-time energy wholesale market that matches the lowest-cost power supply with demand every 15 minutes, and dispatches energy every five minutes. BPA is not participating in the EIM, but the market's growing footprint borders and transits BPA's grid, and Northwest EIM participants rely on BPA's transmission for EIM operations.

"This agreement will provide more consistency and certainty in our operations," Shaheen said. "California is an important market that we work with. This agreement is part of BPA's effort to upgrade systems and processes to enhance broader regional coordination. If we have congestion on our system, such as in the area south of Allston, we have agreements with CAISO to help us alleviate flow."

The data exchanges and some of the procedures are already being followed. The flow relief will require system upgrades by both BPA and CAISO, which will take some time to put in place.

BPA seeks OATT changes

BPA plans to revise its open access transmission tariff, or OATT, to better align with the Federal Energy Regulatory Commission's pro forma tariff, industry standards, and meet changing market conditions. Bonneville also intends to revise its OATT to clarify the public process it will follow to make any future changes to its tariff.

BPA crews help mitigate heat and fire dangers

Keeping BPA's system running reliably in the extreme heat of summer is no small feat. Power and Transmission crews were well-positioned for the heat wave by taking actions such as deferring maintenance outages and working with federal dam operators to make sure the water intakes were clear of debris to optimize power generation.

Wildfires threatened BPA transmission lines, so field crews were out in the heat, monitoring the situation and standing ready to de-energize threatened lines. The large Sapphire Complex fire in Montana burned up to the edge of the Garrison-Taft transmission lines, and fire crews set controlled burns to strengthen the fire lines.

On such high-heat days, when lines sag due to the heat and loads, BPA's Vegetation Management Program shines. Keeping lines clear of vegetation is critical — just one tree coming into contact with a transmission line can trigger outages and risk people's health and safety. In addition, BPA's rights-of-way are so clear, they can provide a crucial break in fuel and become a good location to try and stop a fire's progression.

HYDRO POWER FLOWS HERE

BPA, its customers and other Pacific Northwest utilities made a splash in June with the launch of the "Hydropower Flows Here" education campaign. Communities across the Pacific Northwest are participating in this effort to highlight the attributes of hydropower, which provides renewable, clean, reliable energy to nearly 60 percent of Northwest homes and businesses. Customers have produced a float, print ads, pins, banners, hundreds of social media posts, and appearances at dozens of public events. BPA looks forward to what is to come in 2018.

1ST

The Columbia River Basin produces **more hydropower than any other region** in North America.

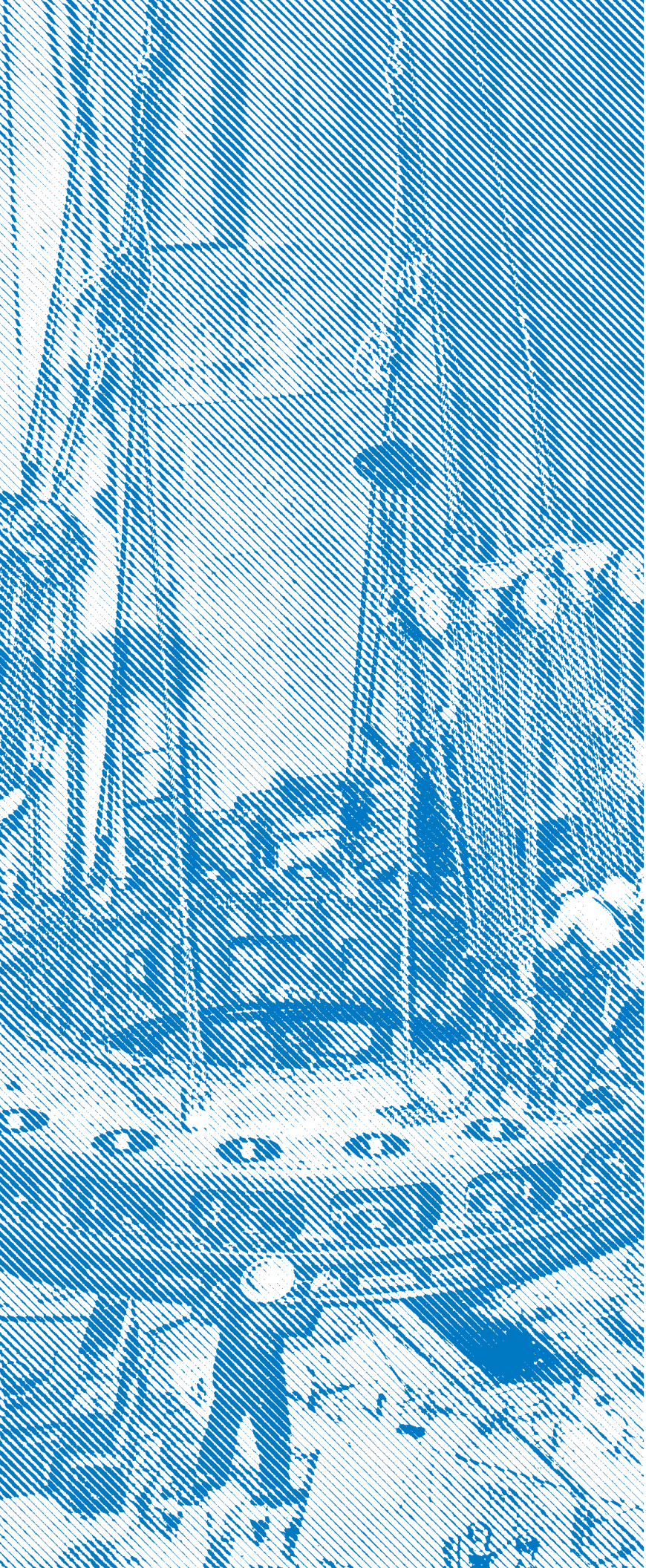
Thanks to the irrigation benefits of hydropower, the NW has nearly **8 million more acres** of farmland.

CO_2

The region's hydropower offsets emissions **equivalent to 10 million cars.**

The NW can generate enough hydroelectricity **to power 14 Seattle-sized cities.**

#HydroFlowsHere



BPA works closely with the U.S. Army Corps of Engineers and Bureau of Reclamation to assess, maintain and renew the value of the 31 Federal Columbia River Power System hydroelectric dams, the largest clean-energy system in the nation.

In addition to the power from federal dams in the northwest, BPA markets the entire output of Energy Northwest's Columbia Generating Station — the only commercial nuclear power station in the region.

Reliable, high-performing assets are central to BPA's mission. In an era of aging assets and in an environment with an increased focus on cost management and long-term competitiveness, managing the agency's infrastructure investments is critical. To that end, BPA is using long-term asset management strategies to prioritize a complex sequence of decisions to finance and execute projects, to preserve reliability and reduce costs to its ratepayers.

For example, BPA is funding major rehabilitations and replacements at three of the most critical plants in the FCRPS. The final of 16 planned turbine replacements at Chief Joseph Dam were completed in fiscal year 2017. Overall, the new turbines resulted in an average efficiency increase of 6 percent per unit. Turbine overhauls also are ongoing in Grand Coulee's third power plant, which houses six of the largest hydropower units in the world. Likewise, all 14 turbines at McNary Dam are planned to be replaced with new fish-friendly turbines between 2023 and 2031, a top priority identified in the FCRPS Hydro Asset Strategy.

The 2017 System Asset Plan is published

BPA published a regionally prioritized asset investment plan for the FCRPS. The 2017 System Asset Plan's value framework allows for the assessment, comparison and optimization of potential investments in FCRPS facilities. BPA assessed benefits, risks and costs for over 250 potential investments, which were then optimized to maximize the value of the investment portfolio and stay within FCRPS annual budget constraints.

Grand Coulee Dam unit returns to operation

In April 2017, a 690-megawatt generating unit at Grand Coulee Dam was returned to commercial operation after extensive repairs. The unit had been out of service for over one and a half years due to significant vibration and elevated bearing temperatures. The Bureau of Reclamation took extensive measures to conduct root-cause analysis and managed the project in concert with the ongoing, third power plant mechanical overhaul of the 805-MW generating units.

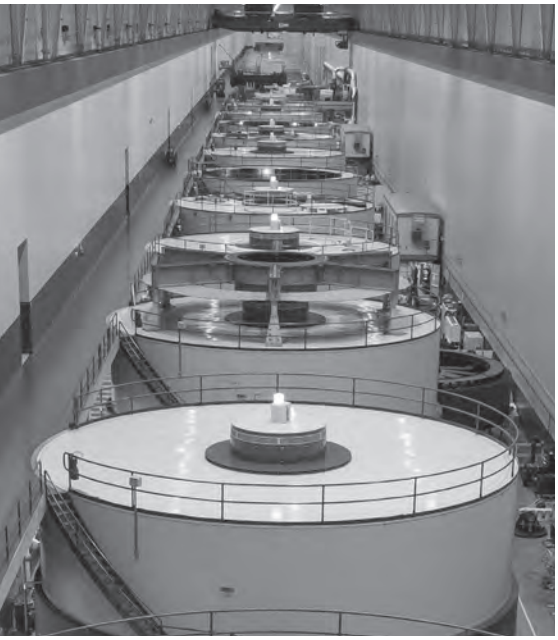
Reclamation's hard work paid dividends because the generating unit was returned just prior to the spring runoff, and it allowed Grand Coulee to reduce the amount of spill and help manage overall total dissolved gases through the entire hydro system. Total dissolved gas management is critical to Endangered Species Act-listed salmon and steelhead. Later in the year that same unit helped Bonneville manage through heat waves and the associated volatility in market prices, decreasing the need for expensive purchases and increasing the value of surplus sales.

Commercial operations systems and processes under review

Advances in technology, evolving energy markets and the changing characteristics of generation resources across the West are prompting the agency to scrutinize its commercial operations to generate more value for its customers. The objective of BPA's Commercial Operations Key Strategic Initiative is to ensure BPA has the core capabilities to reliably operate its system in an increasingly dynamic environment and participate in new markets.

One of the best aspects of BPA is that it has great assets. I'm really a big fan of hydro. It's one of the main reasons I joined BPA.

—Joel Cook, Senior Vice President, Power Services



Chief Joseph turbine bay.

This year BPA embarked on developing a long-term plan for modernizing business processes, technology and tools across its planning, system operations and marketing functions. Working with an industry consultant, teams from across Power and Transmission documented the current state and identified desired future practices for these functions. Early in fiscal year 2018, BPA will share with customers and stakeholders its long-term plan for foundational improvements and modernization of its commercial operations.

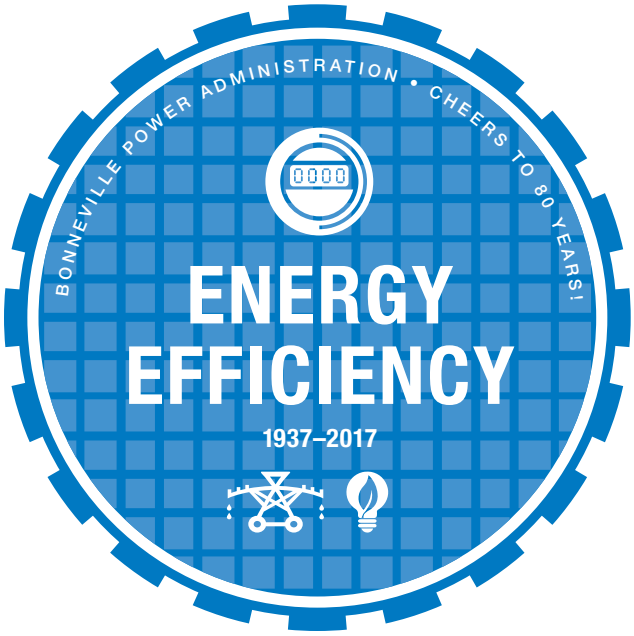
"Work under the Commercial Operations KSI is critical to BPA's future competitiveness. Being able to more accurately determine system obligations, limitations and flexibility will enable more efficient use of the transmission grid and hydro system, reducing costs and increasing the value of these federal assets for BPA's customers," explained Suzanne Cooper, Bulk Marketing vice president.

Columbia Generating Station

Columbia Generating Station marked three major achievements over BPA's fiscal year: It set a new generation record, identified significant operational efficiencies and cost reductions, and reconnected from a planned refueling ahead of schedule.

Columbia Generating Station.

- Record generation set at Columbia Generating Station. As of Jan. 1, 2017, Columbia had produced more carbon-free nuclear energy for the power grid over the previous year than during any other in its 32-year history. Columbia sent more than 9.6 million megawatt-hours of electricity to the grid, beating the previous generation record set in 2014 (9.5 million MWh). Columbia has set new generation records in four of the last five years.
- Energy Northwest reduced proposed expense spending at the Columbia Generating Station by $6.4 million per year. Energy Northwest has improved operations at the Columbia Generating Station resulting in long-term cost savings. These savings were found in part from increased efficiencies and reductions in the workforce through attrition.



Bonneville regards energy efficiency as a critical resource for meeting the region's energy demand and for delaying the need to build new generation and transmission.

To that end, BPA has successfully met or exceeded each of the five-year targets set by the Northwest Power and Conservation Council since 2005. Continuing this legacy of success BPA is on track to exceed its goal of 116 aMW for the 2016–2017 rate period. "It was a big lift and we successfully achieved it," observed Kim Thompson, acting Energy Efficiency vice president.

In the past, the economic case for energy efficiency was cut and dried. Everyone understood the cost of the measures versus the cost of a new resource and market power purchases. Today market dynamics are challenging, but energy efficiency remains a cost-effective, long-game strategy for resource adequacy in the region.

—Kim Thompson, acting Vice President, Energy Efficiency

A game plan for continued savings

In March 2017, BPA completed its 2016–2021 Energy Efficiency Action Plan, which outlines the agency's strategy for achieving its energy-efficiency goals over that six-year period. Looking forward, BPA continues to invest in programs for all sectors covered under its Energy Efficiency program. Over the course of these six years BPA is targeting 581 aMW of savings acquired through a mix of energy efficiency programs, market transformation and momentum savings.

"The programmatic savings we are working to accomplish will be achieved in several ways, including providing support services to customers, providing a framework for customers to do it on their own, or by providing a full suite of technical services and program design elements," Thompson said.

Implementing Focus 2028 feedback

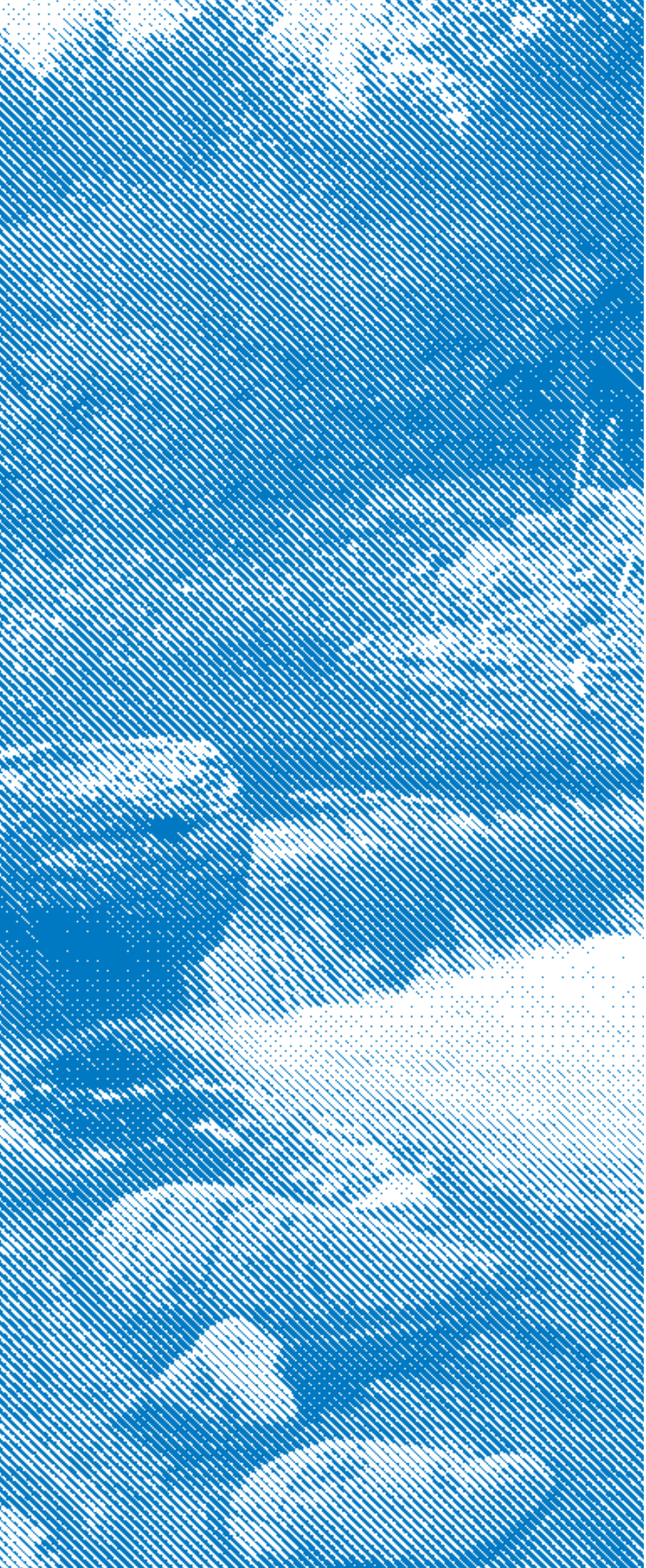
Bonneville completed the energy-efficiency portion of its Focus 2028 effort, and launched its Efficiency Forward project to improve program effectiveness. To be a stronger business partner, BPA implemented several continuous improvement changes to streamline how it conducts business and interacts with customers.

Acquiring least-cost benefits from distributed energy resources

Fiscal year 2017 has been active for BPA's work in developing and integrating distributed energy resources, or DERs. Distributed energy resources are smaller sources of energy or capacity that can be aggregated to meet larger energy or capacity needs. DERs use is expanding rapidly throughout the nation, including the Pacific Northwest. During fiscal year 2017, BPA has been researching, testing and developing tools to successfully implement DERs for commercial operations. This includes:

- The Technology Innovation Battery Project, which is working to standardize demand response communication protocols with multiple utility partners.
- Advancing DERs through a series of demonstrations, including the non-wires South of Allston Pilot, the Fall River Irrigation Demand Response Project and the Energy Northwest Summer Demonstration.
- Developing valuation methodologies for demand-side resources.

BPA plans to continue assessing the use of DERs into fiscal year 2018 as an alternative, least-cost option to traditional power and transmission capital investments, to maximize the return on investment to BPA and its ratepayers. When economically feasible, BPA will use DERs to assist with its competiveness, saving capital investment costs and providing new tools for power system management.



BPA started its Fish and Wildlife Program more than 30 years ago as a response to the passage of the Northwest Power Act, which called for equitable treatment and "protection, mitigation and enhancement" of fish and wildlife affected by hydropower development in the Columbia Basin.

Fish and wildlife conservation is now an essential part of Bonneville's business. BPA works in partnership with the Northwest Power and Conservation Council, states, tribes, local governments and others across the Columbia River Basin to implement wide-ranging conservation actions — hydro operations, habitat enhancement and hatchery innovations.

In 2017, BPA saw new drivers influencing its fish and wildlife strategy. Court decisions, new species of concern such as lamprey, emerging issues such as temperature and climate change, and financial constraints are just some of the issues on the horizon that will affect BPA's operations and conservation actions. Despite these many challenges, 2017 was a year of significant accomplishments.

It starts with hydro operations and dam passage

Hydro operations and fish passage improvements at the dams are the centerpiece of BPA's mitigation strategy. Working with the Corps of Engineers and the Bureau of Reclamation, BPA has made substantial progress improving fish passage and survival. More than 96 percent of spring-migrating fish and 93 percent of summer-

BPA-funded project area in Idaho's Lemhi River Basin.

"BPA's Fish and Wildlife Program mitigates for the effects of the federal hydropower system, providing equitable treatment with power generation and compliance with multiple environmental laws. Together with our federal, state and tribal partners, in 2017 we implemented hundreds of actions to add fish to the rivers and conserve wildlife on the land. And as a side benefit, our program also creates significant rural and local community jobs."

—Lorri Bodi, Vice President, Environment, Fish and Wildlife

migrating salmon now safely travel past each dam, a goal once considered unattainable. This year, in response to court order, BPA and other agencies are examining strategies for increased fish passage spill, including biological, power and financial implications. Bonneville is collaborating with the region's technical experts, taking into account effects on migrating fish, water quality, and the flexibility and reliability of power operations.

In addition to hydro operations and fish passage improvements, BPA moved ahead on hundreds of habitat and hatchery enhancements in 2017. BPA strives to achieve biological objectives in the most cost-effective manner and uses an ecosystem-based approach to benefit both fish and wildlife.

Science-based habitat enhancements that work

BPA's Fish and Wildlife Program is restoring fish habitat in tributaries of the mainstem Columbia River and the estuary. In 2017 alone, BPA's habitat program enhanced more than 700 miles of stream by adding channels, improving in-stream complexity, and other restoration actions; acquired more than 3,500 acres of conservation lands for fish and wildlife; and secured more than 31,000 acre-feet of water per year to improve stream flows and temperature.

For example, chinook salmon appeared in the newly built Catherine Creek stream channel, a tributary to the Grande Ronde River in Oregon, within days after flows were introduced. Over a period of years, BPA and the Umatilla Tribe rehabilitated a 4-mile section of the creek, restoring its floodplain meanders back to the way they were decades ago. Since the new habitat was created, the number of young salmon has increased tenfold. This project received a Governor's Conservation Award in 2017.

In Idaho, BPA partnered with the state to permanently protect almost 2,400 acres of fish habitat with the purchase of a Lemhi River conservation easement. This project permanently protects 630 miles of streamside habitat and 7.5 miles of river and creek frontage, benefitting salmon, steelhead and other fish. In Washington, BPA is restoring lamprey, an eel-like fish with special significance to Native American tribes and an important part of the ecology of the Columbia River and its tributaries. With BPA funding, the Yakama Nation releases about 1,000 adult fish every year into the mainstem upper Columbia River and subbasins, and is researching artificial propagation. This year, BPA renewed its support for the Pacific Lamprey Conservation Agreement, which provides best practices for activities that disturb streams on federally managed lands.

A lower Columbia estuary project, just completed in partnership with the Cowlitz Indian Tribe, removed sections

Transport of summer/fall chinook salmon brood from the Okanogan River to Chief Joseph Hatchery.

of levee and opened almost 200 acres of historic floodplain habitat to the Columbia River's tides. In a unique partnership, Bonneville's fish team worked with Transmission Services staff to ensure the safety and reliability of two BPA transmission towers on the site. They developed a special boat-ramp-like road that gets submerged during tidal inundation, but remains accessible otherwise. The newly-created wetlands now provide off-channel areas for young fish transitioning from fresh to saltwater on their journey to the ocean. The habitat also benefits wildlife such as deer, elk, waterfowl, shorebirds, raptors and river otter.

Fiscal year 2017 was a banner year for westslope cutthroat trout. Montana Fish, Wildlife and Parks, the United States Forest Service, and BPA recently completed a 10-year watershed-scale project to remove species of non-native trout from the South Fork Flathead River that were competing for food and habitat, as well as affecting the genetics of the native populations. The project was successful. Naturally reproducing populations of westslope cutthroat trout are now established in secure headwater lakes and streams.

Innovative hatcheries are bringing fish back to the rivers

BPA continued to fund dozens of innovative hatchery programs designed and operated by tribes to bring fish back to the rivers of the Columbia Basin. Bonneville funds production of salmon, steelhead, lamprey, sturgeon, native trout and burbot to support endangered species conservation, restoration of extirpated runs, and managed harvest by the tribes and residents of the Northwest.

Managing costs

BPA is working closely with the Northwest Power and Conservation Council to examine cost savings and emerging priorities for BPA's fish and wildlife funding. Bonneville entered into several stewardship agreements that provide upfront endowment funding, within budget, for ongoing maintenance of recently acquired or restored habitat lands. BPA is using multi-year budget agreements, such as the Columbia Basin Fish Accords, to provide budget certainty and stability. Overall, with fewer resources and increased workload, BPA still accomplished notable results.

COLUMBIA RIVER SYSTEM OPERATIONS ENVIRONMENTAL IMPACT STATEMENT

A fresh, robust look at the system.

For the first time in more than 20 years, BPA, the Corps of Engineers and the Bureau of Reclamation have initiated a new, comprehensive environmental impact statement to assess the effects, alternatives and tradeoffs associated with operation of the Columbia River System. Through a robust public process and extensive analysis, the EIS will take a fresh look at system operations such as irrigation, power generation, navigation, recreation, cultural resources, and fish and wildlife.

To support the EIS, this year the partner agencies held 18 public scoping meetings at which they received 81,000 comments. The agencies summarized about 395,000 scoping letters and other comments, and are developing alternatives for detailed evaluation.

PERFORMANCE TARGET RESULTS

BPA sets annual Key Performance Indicators and multi-year Key Strategic Initiatives that the organization as a whole is responsible for achieving in the specified year. Together, these targets and initiatives serve as indicators of BPA's annual performance.

KEY PERFORMANCE INDICATORS

Our People

SAFETY
Target met. BPA achieved an incident frequency rate of 1.1 per 200,000 hours worked, which is below the target of 1.2 or less. No fatalities occurred to BPA employees or contract staff working on BPA facilities.

EMPLOYEE ENGAGEMENT
Target met. BPA met its employee engagement target with 92.4 percent of work groups participating in follow-up discussions or activities and updating action plans in response to the Gallup employee survey results, against a target of 90 percent.

DEMONSTRATE DIVERSITY LEADERSHIP
Target met. BPA met its diversity leadership target with 100 percent of the executive team members participating in two diversity events during the fiscal year, with at least one event being an external diversity event, against a target of at least 95 percent.

DEVELOP A POSITIVE WORK ENVIRONMENT
Target met. Of BPA's federal employees, 96 percent attended identified agency diversity offerings, against a target of at least 95 percent.

BILLING ACCURACY
Target met. BPA achieved an absolute dollars-revised accuracy rate of 99 percent against a target of at least a 98.5 percent average.

Physical Assets

TRANSMISSION SYSTEM INFRASTRUCTURE
Target met. The capital budget direct expenditure rate for Transmission was 86 percent, and the indirect expenditure rate was 90 percent, both achieving the target not to exceed 100 percent of the start-of-year budget. The end-of-project forecast for cost, schedule and scope was achieved with 88 percent of projects against a target of at least 80 percent. Procurement and installation occurred or exceeded the specified range for all 15 identified assets targeted for FY 2017.

HYDRO GENERATION SYSTEM INFRASTRUCTURE
Target not met. BPA's budget expenditure rate for the federal hydropower capital program was 97.2 percent, within the target range of 90 to 100 percent. The fiscal year milestone completion rate for major projects was 60 percent, below the target of at least 85 percent. The end-of-project forecast for cost, schedule and scope was missed with 75 percent of projects against a target of at least 80 percent.

ENERGY EFFICIENCY
Target met. BPA and public utility energy efficiency programs invoiced and approved 145 average megawatts of new energy efficiency against a FY 2016–17 rate period target of 116 aMW. This was achieved with actual expenditures of 99.9 percent of the rate-period budget.

Sustainable Finances & Rates

COST MANAGEMENT
Target met. BPA's departmental expenses were $925 million, which is 96 percent of and within the target to be equal to or less than the second quarter forecast of $961.3 million.

ADJUSTED NET REVENUES
Target met. BPA had adjusted net revenues of $5.4 million, exceeding the target of negative $2.5 million or greater.

TREASURY PAYMENT
Target met. BPA's fiscal year 2017 payment to the U.S. Treasury of $1.3 billion was made on time and in full for the 34th consecutive year.

BOND RATING
Target met. BPA-backed bonds maintained ratings as affirmed by Moody's (Aa1), Standard & Poor's (AA-) and Fitch (AA). Fitch issued a negative outlook.

Reliable, Efficient & Flexible Operations

TRANSMISSION SYSTEM OPERATIONS PERFORMANCE
Target met. All four metrics related to unplanned outages (SAIFI and SAIDI) met their targets for FY 2017. BPA met transmission system performance targets for excursion minutes over the standard operating limits for the specified intertie paths. There were no involuntary curtailments of firm load due to cascading outages, reliability violations or system security breaches initiated on the BPA transmission system.

FEDERAL HYDRO PERFORMANCE
Target not met. BPA missed the availability factor target of 75.1 percent with a result of 74.5 percent, had a forced outage factor of 5.9 percent, above the maximum threshold of 5.1 percent, and exceeded the safety target not to exceed 1.7 incidents per 100 FTE with a DART incident rate of 1.9. However, BPA met targets in generation reliability and fleet cost performance.

COLUMBIA GENERATING STATION PERFORMANCE AND COST

Target met. The cost of power at the Columbia Generating Station nuclear plant was $50.38 per megawatt-hour, below the target of $57.56 or less per megawatt-hour. The Columbia Generating Station overall performance index indicator was 99.4 percent, above the target of 94 percent or greater.

The Natural Environment

No KPIs in FY 2017.

KEY STRATEGIC INITIATIVES

BPA SAFETY AND OCCUPATIONAL HEALTH

Target met. BPA's engaged employees and contractors are empowered to recognize job hazards and address safety and occupational health issues. Safety and occupational health are integrated into all aspects of work with a goal of zero injuries. FY 2017 achievements include continuing with major improvements to BPA's safety culture, management system metrics, design and integrated safety and occupational health functions.

WORKFORCE

Target met. BPA has a diverse workforce of the right size and composition, with the right skills and competencies, working in a positive work environment to deliver on its public responsibilities and strategic priorities. In FY 2017, BPA met major milestones including analyzing its workforce to inform strategic hiring decisions, establishing long-term trajectory targets to reduce workforce costs, creating a talent management strategy for deploying human resources flexibilities, ensuring supplemental labor use compliance, developing and executing a diversity and inclusion strategy, and implementing a plan ensuring continuity of strong executive leadership.

ASSET MANAGEMENT

Target met. BPA is in the process of implementing the Institute of Asset Management's leading practice-based framework to ensure the agency prioritizes investments to maximize the value of its assets. In FY 2017, BPA made advancements through implementation of several process improvements in the areas of capital decision-making, project scoping, and operations and maintenance efficiencies. In addition, Strategic Asset Management Plans are in progress and scheduled for completion in the second quarter of FY 2018. These plans will assist BPA in systematically improving its asset management programs. BPA formed the Asset Information Governance Board to improve data analytics and processes.

LONG-TERM FINANCIAL AND RATES

Target met. BPA delivers power priced to fully subscribe the FCRPS among Northwest public-preference customers and transmission services priced to provide the best value to customers. BPA does this by investing in its assets while balancing the goals of low rates and financial health over the long-term and meeting public purpose objectives and statutory obligations as a federal power marketer and open-access transmission provider. BPA met the FY 2017 milestones by completing several process and scenario tool improvements, supporting development of the strategic and financial plans, and by starting a strategic cost management initiative.

COMMERCIAL OPERATIONS

Target met. BPA has the core functionality required to successfully participate in the management of a regional modernized electrical grid. In FY 2017, BPA drafted an operating agreement between Bonneville and the California ISO, which is being finalized for stakeholder engagement early next year. Additionally, all Commercial Operations work streams have met their FY 2017 targets; including development of a long-term planning roadmap, work on South of Allston, and Energy Imbalance Market entity market access.

BUSINESS INFORMATION SYSTEMS

Target not met. BPA's business information systems optimize the value and reliability of agency decisions and enhance the accountability, integrity, insights and value of supported activities for Bonneville's stakeholders and the region. In FY 2017, BPA performed a high-level current-state assessment and diagram for the majority of known BIS systems and delivered a strategic direction and road-map document. As a result of the assessment, the Business Transformation Office was established with the following capabilities:

1. Portfolio/Program and Project Management.
2. Change Management.
3. Business Analysis.
4. Enterprise Architecture.

The agency will use these capabilities to deliver on the goals of the BIS program by applying the enterprise architecture across core business systems allowing the agency to make data driven decisions.

FISH AND WILDLIFE

Target met. BPA meets its Endangered Species Act, Pacific Northwest Electric Power Planning and Conservation Act and tribal responsibilities using a performance-based approach, including setting and achieving performance metrics to fully address its obligations through a combination of hydro, habitat, hatchery and predator-management actions. In FY 2017, BPA had several major achievements to ensure that its fish and wildlife program, including hydro system operations and configuration, is scientifically credible, legally defensible, cost effective and has broad regional support. BPA coordinated with the U.S. Army Corps of Engineers and Bureau of Reclamation to successfully operate the hydro system consistent with both the biological opinion and court requirements and achieved its tributary habitat improvement and estuary targets. BPA also coordinated with the Corps and Reclamation to begin a systemwide National Environmental Policy Act review for operations and fish mitigation, as well as respond to court orders related to biological opinions for anadromous fish and resident fish.

FINANCIAL SECTION

32 MANAGEMENT'S DISCUSSION AND ANALYSIS

49 INDEPENDENT AUDITOR'S REPORT

50 FINANCIAL STATEMENTS

54 NOTES TO FINANCIAL STATEMENTS

83 FEDERAL REPAYMENT

MANAGEMENT'S DISCUSSION AND ANALYSIS

General

The Federal Columbia River Power System (FCRPS) financial statements combine the accounts of the Bonneville Power Administration (BPA) with the accounts of the Pacific Northwest generating facilities of the U.S. Army Corps of Engineers (USACE) and the Bureau of Reclamation (Reclamation). The FCRPS combined financial statements also include the operations and maintenance costs of the U.S. Fish and Wildlife Service for the Lower Snake River Compensation Plan facilities. Consolidated with BPA are variable interest entities (VIE) of which BPA is the primary beneficiary, and from which BPA leases certain transmission facilities. As of Sept. 30, 2017, and 2016, BPA had consolidated one and two such VIEs, respectively.

FCRPS revenues are derived principally from the sale of power and transmission products and services. In 1937, the Bonneville Project Act created BPA and directed it to market federally produced hydroelectric power to customers, giving preference and priority in power sales to public bodies and cooperatives. The Act authorized BPA to provide, construct, operate, maintain and improve transmission facilities to deliver federal power at cost. BPA is obligated to meet its statutory and contractual load obligations to preference customers so they can meet their total retail loads and load growth, minus their own nonfederal power supply. Preference customers are the largest customer group to which BPA sells power. BPA's current power sales agreements with preference customers are in effect through fiscal year 2028. As an open access transmission service provider, BPA provides ancillary and control area services to support basic transmission services, including providing balancing reserves for interconnected renewable generation. BPA remains committed to providing nondiscriminatory open access transmission after meeting statutory responsibilities to preference customers and others.

BPA's hydroelectric power supply depends on the amount and timing of precipitation in the Columbia River Basin and the shape, or timing, of the resulting runoff. For ratemaking purposes, BPA balances its firm load obligations with the runoff consistent with "critical water conditions." This assumption yields estimated power generation under historically low water conditions, which provides BPA with a reliable estimate of the firm power available to meet firm load obligations. Federal firm power is provided to meet regional preference customer loads first. BPA may also sell firm power to other entities, including regional investor-owned utilities and direct-service industrial customers. Power produced in excess of BPA's firm load obligations, if available, is considered by BPA to be surplus power and is sold in the Western Interconnection wholesale power markets. When generation is not sufficient to meet loads, BPA purchases power on the wholesale markets or acquires the output of resources.

Use of Estimates and Forward-Looking Information

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of

the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results may differ from those estimates.

This Management's Discussion and Analysis is unaudited and may contain statements which, to the extent they are not recitations of historical facts, constitute "forward-looking statements." In this respect, the words "planned," "predict," "could," "estimate," "expect" and similar expressions are intended to identify forward-looking statements. A number of important factors affecting FCRPS business and financial results could cause actual results to differ materially from those stated in forward-looking statements due to factors such as changes in economic, industry, political and business conditions; changes in laws, regulations and policies and the application of the laws; and changes in climate, weather, hydroelectric conditions and power services supply and demand. BPA does not plan to issue updates or revisions to the forward-looking statements.

Rates

Background

BPA is committed to cost-based rates, and public and regional preference in its marketing of power. BPA sets its rates as low as possible consistent with sound business principles and the full recovery of all of its costs, including timely repayment of the federal investment in the FCRPS.

Under BPA's U.S. Treasury payment probability standard, BPA establishes rates sufficient to maintain a level of financial reserves and achieve a 95 percent probability of making all of BPA's scheduled U.S. Treasury payments during the two-year rate period. (For the definition of financial reserves see the Liquidity and Capital Resources section in this Management's Discussion and Analysis.)

Fiscal Years 2016–2017

BPA conducted a consolidated power and transmission rate proceeding, BP-16, to establish rates for fiscal years 2016 and 2017. BPA concluded the BP-16 rate proceeding in July 2015. The Federal Energy Regulatory Commission (FERC) then granted interim approval of the rates on Sept. 17, 2015, and final approval on Feb. 2, 2016. When compared to the prior rate period, the final rates increased wholesale power rate levels by 7.1 percent on average and increased transmission and related rate levels by 4.4 percent on average. The power rate increase resulted from several factors, among them increased hydro system operations and maintenance costs, increased fish and wildlife expenses, the expiration of the effects of debt management actions that had temporarily reduced Power Services' revenue requirements for debt service, a scheduled exchange benefit increase under the 2012 Residential Exchange Program settlement, and higher transmission costs that Power Services bears from obtaining transmission and related service from Transmission Services and others to meet power sales obligations. The increase in rates for transmission and related service was caused mainly by capital investments in the transmission system.

As part of BPA's risk mitigation strategy, BPA has relied on a Cost Recovery Adjustment Clause (CRAC) in its rates. The CRAC for the BP-16 rate period was designed to enable BPA to increase certain power and transmission rates within the rate period to obtain up to $300 million per fiscal year of additional revenue, primarily Power Services revenue. The conditions for triggering the CRAC in fiscal years 2016 and 2017 did not occur.

Fiscal Years 2018–2019

To establish rates for fiscal years 2018 and 2019, BPA concluded the BP-18 rate proceeding in July 2017 by releasing the Administrator's Final Record of Decision and Final Proposal. Rates for the two-year period began on Oct. 1, 2017, and will conclude on Sept. 30, 2019. BPA received interim approval from the FERC in September 2017. FERC's practice is to grant approval of BPA's rates on an interim basis at the beginning of the rate period, pending final review. When compared to the prior rate period, the average power rate increase was 5.4 percent, and the average transmission rate decrease was 0.7 percent. Power rates include a spill surcharge, which may provide an additional rate increase to recover costs associated with certain court-ordered changes to the operation of the federal hydroelectric system. As proposed, the spill surcharge would be

implemented annually in each of fiscal years 2018 and 2019 based on the estimated financial impact of the change in spill operations in the related fiscal year. Given the uncertainty about the terms of the anticipated new spill plan, BPA is unable to estimate the dollar impact of future surcharges.

BPA's power and transmission rates include a CRAC that would enable BPA to increase certain power and transmission rate levels to collect up to $300 million of additional Power Services revenue and up to $100 million of additional Transmission Services revenue, for each year of the rate period. The conditions for triggering the proposed CRAC are based on certain financial metrics reflecting the level of reserves BPA has derived from operations from Power Services and Transmission Services. The conditions for triggering the CRAC for application in fiscal year 2018, as set forth in the BP-18 rate proposal, were reviewed using financial results and forecasts as of the end of the third quarter of fiscal year 2017. The conditions that would trigger the CRAC for application to fiscal year 2018 rate levels did not occur. Under the rates, BPA would also make a CRAC determination for fiscal year 2019 rate levels shortly before the end of fiscal year 2018.

Slice

BPA provides a power sales product called "Slice of the System," or "Slice." For this product, Slice customers pay for a fixed percentage of BPA's power costs in exchange for the right to an indeterminate and variable amount of power. The amount of power Slice customers receive is indexed to their respective Slice percentages and the decisions they make using a BPA-provided water routing simulator that reasonably represents the real-world constraints and capabilities of the FCRPS. BPA and its federal partners retain all operational control of resources that comprise the FCRPS at all times. In fiscal year 2016, BPA granted three Slice customers requests to switch from Slice to other products. The aggregate amount of Slice that BPA will sell will decline to 22.3 percent of the system by fiscal year 2020. In fiscal year 2017 the amount was 26.6 percent.

Results of Operations

Operating revenues

Fiscal year 2017 revenues compared to fiscal year 2016

A comparison of FCRPS operating revenues follows for the fiscal years ended Sept. 30, 2017, and 2016:

(Millions of dollars)	2017	2016	Revenue Increase (Decrease)	% Change
Consolidated gross sales				
Power	$ 2,539.8	$ 2,402.4	$ 137.4	6%
Transmission	922.1	903.2	18.9	2
Bookouts (Power)	(21.4)	(22.1)	0.7	(3)
Sales	3,440.5	3,283.5	157.0	5
U.S. Treasury credits	58.3	77.2	(18.9)	(24)
Miscellaneous revenues				
Power	29.5	27.9	1.6	6
Transmission	41.5	44.0	(2.5)	(6)
Total operating revenues	$ 3,569.8	$ 3,432.6	$ 137.2	4

Total operating revenues increased $137.2 million when compared to fiscal year 2016. Consolidated gross sales for Power and Transmission Services, including the effect of bookouts, increased $157.0 million.

Power Services gross sales increased $137.4 million.

- Firm power sales increased $29.4 million due to a combination of higher load-shaping charges caused by colder-than-average weather and higher industrial power sales in fiscal year 2017.
- Surplus power sales increased $108.0 million. The increase was mainly due to near-record precipitation, which increased natural streamflows, as well as slightly higher electricity prices for surplus power sales.

- January through July 2017 runoff volume at The Dalles Dam was 137 million acre-feet (maf), a substantial increase of 39 maf from the same period in 2016. This metric for measuring volume of runoff is one of several indicators of the amount of electricity the hydro system can produce. The full fiscal year 2017 volume finished at 170 maf, an increase of 47 maf from the 123 maf in fiscal year 2016, and well above the historical average (1928-2008) of 132 maf.
- Gross power sales increased to 89,435,727 megawatt-hours in fiscal year 2017 from 81,238,796 megawatt-hours in fiscal year 2016.

Bookouts are presented on a net basis in the Combined Statements of Revenues and Expenses. When sales and purchases are scheduled with the same counterparty on the same transmission path for the same hour, the power is typically booked out and not scheduled for physical delivery. The megawatt-hours that offset each other net to zero. The dollar values of these offsetting transactions reduce both sales and purchased power expense and are recorded as bookouts. Therefore, the accounting treatment for bookouts has no effect on net revenues, cash flows or margins.

Transmission Services gross sales increased $18.9 million. A combination of a cold winter and heavy streamflows were responsible for much of this increase. Of this amount, $2.2 million related to oversupply events that occurred from March through June 2017 when near-record streamflows from abundant precipitation and snowmelt required BPA to curtail the generation of certain wind-power generators at times. During an oversupply event, BPA pays displaced generators and collects an equal amount from transmission customers based on their scheduled generation during the month.

U.S. Treasury credits for fish and wildlife mitigation decreased $18.9 million due to increased streamflows and higher federal generation. Under the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act), BPA reduces its payment to the U.S. Treasury for the nonpower expenditures made by BPA for fish and wildlife mitigation. Increased federal generation led to a decrease in the amount of purchased power needed for fish mitigation in fiscal year 2017.

Fiscal year 2016 revenues compared to fiscal year 2015

A comparison of FCRPS operating revenues follows for the fiscal years ended Sept. 30, 2016, and 2015:

(Millions of dollars)	2016	2015	Revenue Increase (Decrease)	% Change
Consolidated gross sales				
Power	$ 2,402.4	$ 2,399.4	$ 3.0	0%
Transmission	903.2	902.6	0.6	0
Bookouts (Power)	(22.1)	(44.5)	22.4	(50)
Sales	3,283.5	3,257.5	26.0	1
U.S. Treasury credits	77.2	82.3	(5.1)	(6)
Miscellaneous revenues				
Power	27.9	30.4	(2.5)	(8)
Transmission	44.0	34.2	9.8	29
Total operating revenues	$ 3,432.6	$ 3,404.4	$ 28.2	1

Total operating revenues increased $28.2 million when compared to fiscal year 2015.

Power Services gross sales increased $3.0 million.

- January through July 2016 runoff volume at The Dalles Dam was 98 million acre-feet (maf), an increase of 14 maf from the 84 maf for the same period in 2015. The full fiscal year 2016 volume finished at 123 maf, an increase of 10 maf from the 113 maf in fiscal year 2015.
- Gross power sales increased to 81,238,796 megawatt-hours in fiscal year 2016 from 80,051,593 megawatt-hours in fiscal year 2015.

- Firm power sales increased $149.9 million primarily due to higher power rates effective Oct. 1, 2015, offset by $59.9 million in lower industrial power sales as a result of an amendment in April 2015 to the Alcoa long-term firm power sales agreement. This amendment reduced the monthly amount of firm power that Alcoa purchased from BPA at industrial firm power rates from 300 average megawatts to 75 average megawatts. In November 2015, Alcoa exercised its curtailment right to further reduce its monthly firm power purchases to 10 average megawatts. This curtailment covers the period of February 2016 to February 2018.
- Surplus sales decreased $87.0 million mainly due to lower prices on surplus products. Natural gas prices were consistently low, which contributed to an environment of low electricity prices for the majority of the year. In addition, lingering effects from the fiscal year 2015 dry year negatively impacted surplus sales for the first half of fiscal year 2016.

Transmission Services gross sales increased $0.6 million over fiscal year 2015. This change reflects higher transmission rates effective Oct. 1, 2015, offset by certain one-time revenues recorded in fiscal year 2015, milder winter and summer temperatures in 2016 and a product terminating in fiscal year 2016.

Miscellaneous transmission revenues increased $9.8 million over fiscal year 2015 largely due to $7.7 million of reimbursable revenue associated with transmission work performed for BPA customers. Reimbursable revenues are generally offset by an equivalent amount of reimbursable expenses.

U.S. Treasury credits decreased $5.1 million for fiscal year 2016 from fiscal year 2015. The decrease was primarily due to lower replacement power purchases and capital expenditures required for fish and wildlife mitigation purposes.

Operating expenses

Fiscal year 2017 operating expenses compared to fiscal year 2016

A comparison of FCRPS operating expenses follows for the fiscal years ended Sept. 30, 2017, and Sept. 30, 2016:

(Millions of dollars)	2017	2016	Expense Increase (Decrease)	% Change
Operations and maintenance	$ 2,110.7	$ 2,025.3	$ 85.4	4%
Purchased power	147.4	111.7	35.7	32
Nonfederal projects	241.3	249.2	(7.9)	(3)
Depreciation and amortization	485.0	471.1	13.9	3
Total operating expenses	$ 2,984.4	$ 2,857.3	$ 127.1	4

Total operating expenses increased $127.1 million when compared to fiscal year 2016.

Operations and maintenance expense increased $85.4 million.

- Energy Northwest's Columbia Generating Station nuclear power plant's costs increased $59.1 million because 2017 was a refueling year. Refueling occurs biennially and refueling and maintenance expenses are typically higher in refueling years.
- Bureau of Reclamation operations and maintenance costs increased $15.6 million due to work at the Grand Coulee Dam Third Power Plant. This work includes the ongoing mechanical overhaul of generating equipment for Units 22-24, new work related to the alignment of Unit 21, asphalt road repair, and refurbishment of the ring seal gates and fixed wheel gate. During the same period in fiscal year 2016, work was delayed on Unit 24 at Grand Coulee, which had the comparative impact of increasing current year expense.

- Power's transmission acquisition costs increased $24.0 million largely due to increases in certain third-party wheeling costs for delivering energy to transfer service customers. Transfer service customers purchase power from BPA but are not directly connected to the BPA transmission system.
- Corporate costs decreased $16.9 million largely as a result of cost management initiatives and lower contributions for postretirement benefit programs.

Purchased power expense, including the effects of bookouts, increased $35.7 million mainly due to greater compensation owed to BC Hydro, a Canadian electric utility owned by the province of British Columbia. During fiscal year 2017, and when compared with fiscal year 2016, BC Hydro released more water at Arrow Dam in British Columbia, which increased the monetary amount owed to BC Hydro under certain water storage agreements for the value of that released water.

Depreciation and amortization increased $13.9 million primarily due to higher amounts of completed transmission and federal system hydro generation assets in service.

Fiscal year 2016 operating expenses compared to fiscal year 2015

A comparison of FCRPS operating expenses follows for the fiscal years ended Sept. 30, 2016, and Sept. 30, 2015:

(Millions of dollars)	2016	2015	Expense Increase (Decrease)	% Change
Operations and maintenance	$ 2,025.3	$ 1,959.2	$ 66.1	3%
Purchased power	111.7	76.3	35.4	46
Nonfederal projects	249.2	229.0	20.2	9
Depreciation and amortization	471.1	448.0	23.1	5
Total operating expenses	$ 2,857.3	$ 2,712.5	$ 144.8	5

Total operating expenses increased $144.8 million when compared to fiscal year 2015.

Operations and maintenance expense increased $66.1 million.

- Energy conservation increased $80.0 million largely due to the transition of the energy conservation capital program to expense starting with fiscal year 2016.
- An expense reduction of $27.4 million in March 2015 was not repeated in fiscal year 2016. The expense reduction was for the reversal of a contingent liability originally established for breach of contract claims associated with the California Refund Proceedings.
- Under the 2012 Residential Exchange Program (REP) Settlement Agreement, scheduled amounts increased $18.4 million.
- Energy Northwest's Columbia Generating Station nuclear power plant costs decreased $59.7 million as 2016 was an off-year for the biennial refueling cycle. Maintenance expenses are typically lower in nonrefueling years.

Purchased power expense, including the effects of bookouts, increased $35.4 million for fiscal year 2016 as compared to the same period for fiscal year 2015. BPA was owed less compensation under certain water storage agreements with BC Hydro. Through the end of fiscal year 2016, less water was stored at Arrow Dam and Libby Dam, which reduced the amount owed to BPA for the value of that stored water. BPA therefore recorded fewer monetary credits to purchased power expense, resulting in an expense increase of $34.9 million for fiscal year 2016.

Nonfederal projects debt service increased $20.2 million and reflects terms of the related outstanding debt and past Energy Northwest debt management actions under the Regional Cooperation Debt efforts for Projects 1 and 3, and also for Columbia Generating Station. Relative to the amounts forecast by BPA in establishing power rates for fiscal year 2016, debt management actions reduced debt service and the associated

amortization of the related regulatory and nonfederal generation assets. (See Adjusted Net Revenues section in this Management's Discussion and Analysis.)

Depreciation and amortization increased $23.1 million primarily due to higher amounts of completed transmission and federal system hydro generation assets in service.

Net interest expense

Fiscal year 2017 net interest expense compared to fiscal year 2016

A comparison of FCRPS net interest expense follows for the fiscal years ended Sept. 30, 2017, and Sept. 30, 2016:

(Millions of dollars)	2017	2016	Expense Increase (Decrease)	% Change
Interest expense	$ 285.9	$ 353.8	$ (67.9)	(19)%
Allowance for funds used during construction	(33.0)	(40.3)	7.3	(18)
Interest income	(6.1)	(15.4)	9.3	(60)
Net interest expense	$ 246.8	$ 298.1	$ (51.3)	(17)

The net interest expense decrease of $51.3 million was driven primarily by a decrease in interest expense. This decrease was due primarily to a large advanced repayment of comparatively higher-interest-rate federal appropriations made at the end of fiscal year 2016. In addition, BPA earned less interest income on balances held in the Bonneville Fund as BPA ceased earning more favorable interest-offset credits at the end of fiscal year 2016.

Fiscal year 2016 net interest expense compared to fiscal year 2015

A comparison of FCRPS net interest expense follows for the fiscal years ended Sept. 30, 2016, and Sept. 30, 2015:

(Millions of dollars)	2016	2015	Expense Increase (Decrease)	% Change
Interest expense	$ 353.8	$ 355.7	$ (1.9)	(1)%
Allowance for funds used during construction	(40.3)	(53.2)	12.9	(24)
Interest income	(15.4)	(15.3)	(0.1)	1
Net interest expense	$ 298.1	$ 287.2	$ 10.9	4

Net interest expense increased $10.9 million driven primarily by lower allowance for funds used during construction (AFUDC). AFUDC is a reduction to interest expense that is instead capitalized as part of construction work in progress assets. AFUDC decreased $12.9 million year over year due to lower capital spending and because certain large capital projects were completed and placed in service in fiscal year 2016.

Other Operational Matters

Biological opinion

The operation of the federal system hydroelectric projects by the USACE, Reclamation and BPA, or "Action Agencies," is subject to the Endangered Species Act (ESA). A biological opinion (BiOp) evaluates the effects of a federal agency action on species and habitat protected under the ESA. If necessary, the BiOp includes recommended mitigation actions that will ensure agency actions are not likely to jeopardize listed species or result in the destruction or adverse modification of critical habitat.

In a May 2016 opinion, the U.S. District Court for the District of Oregon (the court) invalidated the FCRPS BiOp by NOAA's National Marine Fisheries Service (NMFS) and ruled that the USACE and Reclamation failed to comply with the National Environmental Policy Act when they issued decision documents to adopt and implement the FCRPS BiOp. The court subsequently ordered NMFS to prepare a new FCRPS BiOp by December 2018. The court also ordered the USACE and Reclamation to continue to implement and fund the 2008 FCRPS BiOp through 2018 and to prepare a new environmental impact statement (EIS) on FCRPS operations, including consideration of breaching the four lower Snake River dams. On Sept. 30, 2016, the Action Agencies published a Notice of Intent to Prepare an EIS in the Federal Register, which initiates the EIS development process. The court ordered the Action Agencies to issue a final EIS and decision documents in 2021; the entire process is expected to take five years to complete.

In April 2017, in response to motions for an injunction, the court ordered the Action Agencies to work with regional experts to develop a plan for increased spill during the spring fish passage season at eight lower Snake and Columbia river dams for the 2018 spring migration season, and to begin smolt monitoring several weeks earlier than called for in the BiOp in the spring of 2018. The court also ordered the federal government to develop a proposal for notifying plaintiffs of future capital spending projects at each dam during the NEPA remand period. The court invited the plaintiffs to file new motions to enjoin future projects that the plaintiffs believe are not needed for safe operation of the dams and substantially may bias the NEPA process. Notices of Appeal from the April 2017 spill ruling were filed on June 2, 2017. On Oct. 26, 2017, the federal government and several defendant-intervenors filed opening briefs in support of the appeal.

BPA is not yet able to predict how federal system hydro operations will change in 2018 and beyond as a result of this ongoing legal action and the next BiOp. While the May 2016 court decision did not affect operations and maintenance expense reported for fiscal years 2017 or 2016, the March 2017 ruling will have financial impacts on BPA, primarily beginning with fiscal year 2018, which are currently being evaluated. In particular, BPA estimated in its court filing that the operations requested by the plaintiffs could result in approximately $40.0 million per year in additional purchased power expense and/or lost revenue and face further limitations on FCRPS flexibility for integrated power and transmission operations.

Transmission line project

In May 2017, BPA announced the decision to terminate the I-5 Corridor Reinforcement Project, a proposed 80-mile, 500-kilovolt transmission line that would have stretched from Castle Rock, Washington, to Troutdale, Oregon. Instead, BPA is taking a new approach to managing congestion on the transmission grid.

In fiscal year 2017, BPA deferred $130.0 million as a regulatory asset recoverable in future rates to be charged to transmission customers, likely beginning in fiscal year 2020. This amount was reclassified from Construction work in progress to Regulatory assets on the Combined Balance Sheets.

Liquidity and Capital Resources

Cash and cash equivalents and financial reserves

To ensure BPA is able to meet its financial responsibilities to counterparties and to the U.S. Treasury, BPA relies on measures such as financial reserves, a line of credit with the U.S. Treasury and a Cost Recovery

Adjustment Clause that can raise rate levels on short notice within the rate period, if needed. Financial reserves, a non-GAAP liquidity measure used by BPA management, consist of BPA cash and cash equivalents, investments in U.S. Treasury market-based special securities and deferred borrowing. The U.S. Treasury market-based special securities reflect the market value as if securities were liquidated as of the end of the period. Deferred borrowing represents amounts that BPA is authorized to borrow from the U.S. Treasury for capital expenditures on utility plant assets and for expenditures on certain regulatory assets, primarily related to fish and wildlife, that BPA has incurred but has not borrowed for as of the end of the period.

BPA's financial reserves increased $41.3 million during fiscal year 2017.

A comparison of BPA total financial reserves, reported at fair value, follows for the fiscal years ended Sept. 30, 2017, and Sept. 30, 2016:

(Millions of dollars)	As of Sept. 30, 2017	As of Sept. 30, 2016	Increase (Decrease)	% Change
Cash and cash equivalents	$ 597.9	$ 579.6	$ 18.3	3%
Short-term investments in U.S. Treasury securities	30.1	272.9	(242.8)	(89)
	628.0	852.5	(224.5)	(26)
Less: Cash and cash equivalents held by USACE and Reclamation	355.6	367.2	(11.6)	(3)
Add: Deferred borrowing	493.3	239.1	254.2	106
BPA financial reserves balance	$ 765.7	$ 724.4	$ 41.3	6

Three-year capital forecast

Planned capital expenditures for the FCRPS over the next three fiscal years for utility plant and for fish and wildlife assets, recorded as regulatory assets, are shown below. Where applicable, the amounts include estimates for capitalized indirect, overhead and interest costs. Actual capital expenditures may differ materially from these estimates based upon a number of factors, including environmental and cultural resource requirements, project lead times, resource availability, outages, dependencies associated with other projects and other factors. Amounts in the table below do not include investments projected by Energy Northwest for Columbia Generating Station.

(Millions of dollars)	2018	2019	2020
Transmission assets	$ 546	$ 535	$ 655
Federal system hydro generation assets	215	263	288
Fish and wildlife	51	44	38
IT and other assets	16	16	14
Total annual capital forecast	$ 828	$ 858	$ 995

Access to capital

BPA makes capital investments to support its multifaceted responsibilities to the region. Historically BPA relied solely on its ability to borrow from the U.S. Treasury. However, BPA's U.S. Treasury borrowing authority is limited by law and, absent other actions, the limit could be reached within a few years. To assure continued funding necessary for critical infrastructure improvements, BPA has over several years expanded its options. These include nonfederal debt refinancings, lease-purchases, the power prepay program, reserve and revenue financing and asset management strategies to more rigorously prioritize proposed capital investments.

BPA borrowing authority from the U.S. Treasury

The aggregate principal amount of debt BPA is authorized by Congress to have outstanding with the U.S. Treasury at any one time is $7.70 billion. The U.S. Treasury borrowing authority may be used to finance capital programs for the FCRPS. In addition, BPA and the U.S. Treasury have agreed to a liquidity facility for

Northwest Power Act expenses in the amount of $750.0 million. Use of the facility is counted within the $7.70 billion overall limit. For capital programs, the related U.S. Treasury debt is term limited depending on the facilities financed: 50 years for USACE and Reclamation capital investments, 35 years for transmission facilities, 15 years for fish and wildlife projects and six years for corporate capital assets.

As of Sept. 30, 2017, BPA had $5.01 billion of bonds outstanding to the U.S. Treasury and $2.69 billion in remaining U.S. Treasury borrowing authority.

Regional Cooperation Debt Program

Starting in fiscal year 2014, BPA and Energy Northwest worked closely to establish a new phase of integrated debt management for their combined total debt portfolios, the debt service of which is borne by BPA ratepayers through BPA's rates. Energy Northwest-related debt refinanced under this effort is called Regional Cooperation Debt.

An important component of Regional Cooperation Debt is the issuance of new bonds by Energy Northwest to refund outstanding bonds shortly before their maturities when substantial principal repayments are due. Funds made available to BPA as a result of these refinancings enable BPA to prepay higher-interest-rate federal obligations. The net effect of refinancing this Regional Cooperation Debt is that both the weighted-average interest rate and the maturity of BPA's overall debt portfolio will be reduced over the life of the program. The refinancings also preserve and restore U.S. Treasury borrowing authority, enabling BPA to finance much-needed investments in critical infrastructure.

In fiscal year 2015 the objective of the Regional Cooperation Debt management actions was expanded to enable rate mitigation actions that allow for items such as the expensing of conservation costs beginning in fiscal year 2016 that BPA would otherwise defer and record as a regulatory asset.

Future Regional Cooperation Debt transactions, if implemented, would make funds available in the Bonneville Fund, within the U.S. Treasury, to prepay a portion of BPA's repayment obligation for federal appropriations, to make payments to reduce the outstanding principal amount of bonds issued by BPA to the U.S. Treasury, or for other debt management purposes likely to be determined through a public process. BPA estimates that the aggregate potential principal amount of Regional Cooperation Debt refunding bonds between fiscal years 2018 and 2020 could exceed $1.1 billion.

Expense borrowing arrangement by Energy Northwest

Through the continued use of line-of-credit borrowing arrangements between Energy Northwest and certain banking institutions, BPA continues a program that began in fiscal year 2016 to accelerate payments on comparatively higher-interest-rate federal appropriations.

To fund both operations and maintenance for Columbia Generating Station and interest expense on certain bonds, Energy Northwest borrowed $458.3 million in fiscal year 2017 under a borrowing arrangement that was available for draws until Sept. 30, 2017. This agreement bears interest at variable rates of interest and is due to be repaid on or before June 30, 2018. The $458.3 million would otherwise have been provided to Energy Northwest and is reflected as cash provided by operations in the FCRPS Combined Statements of Cash Flows. Interest expense funded by this arrangement relates to Energy Northwest bonds previously issued for Columbia Generating Station and for terminated nuclear Projects 1 and 3. The acceleration of federal obligations that is associated with these lines of credit could save BPA approximately $28 million in interest expense in fiscal years 2018 through 2020.

In fiscal year 2016, Energy Northwest borrowed $259.0 million under a similar agreement. In February 2017, BPA funded Energy Northwest's repayment of $249.1 million it received under the fiscal year 2016 borrowing agreement. Energy Northwest paid the remaining $9.9 million out of cash on hand. A financing activity outflow of $249.1 million was recorded in the FCRPS Combined Statements of Cash Flows, with the $9.9 million reported as a significant noncash, other nonfederal item. The accelerated repayment of federal obligations associated with this line of credit saved BPA approximately $17 million in interest expense in fiscal year 2017.

Lease-Purchase Program

The Lease-Purchase Program enables BPA to provide for continued investment in infrastructure to support a safe and reliable system for the transmission of power without using limited U.S. Treasury borrowing authority. Under this program, BPA generally acts as the construction provider and has entered into lease-purchase arrangements with third parties that issue bonds and other debt instruments to fund construction of specific transmission assets. These third parties include the Port of Morrow, Oregon, the Idaho Energy Resources Authority (IERA), an independent public instrumentality of the state of Idaho, and the Northwest Infrastructure Financing Corporation (NIFC).

U.S. Treasury payment

BPA made its U.S. Treasury payment of $1.26 billion for fiscal year 2017, the 34th consecutive year in which BPA made its scheduled payment on time and in full.

(Millions of dollars)	2017	2016	2015
Scheduled payment			
Principal	$ 129.8	$ 478.1	$ 219.3
Interest	270.6	342.9	349.5
Irrigation assistance	50.8	60.3	52.1
Other FCRPS costs	27.5	35.2	40.5
Scheduled payment	478.7	916.5	661.4
Advanced payment			
Principal	778.9	958.7	229.3
Total Treasury payment	$ 1,257.6	$ 1,875.2	$ 890.7

The fiscal year 2017 payment included an unscheduled advance payment of $778.9 million of comparatively higher-interest-rate federal appropriations. As previously discussed, the unscheduled advanced repayment of these appropriations was made possible by additional cash in the Bonneville Fund becoming available primarily as a result of the Regional Cooperation Debt Program and the expense borrowing arrangement by Energy Northwest.

Credit ratings

In fiscal year 2017 the rating agencies issued credit ratings on nonfederal debt backed by BPA. The ratings are subject to change, and the most recent ratings were as follows:

- Moody's at Aa1 with a stable outlook (August 2017)
- Fitch at AA with a negative outlook (August 2017)
- Standard & Poor's at AA- with a stable outlook (March 2017)

Cash flows

Fiscal year 2017 cash flows compared to fiscal year 2016

A comparison of FCRPS cash flows follows for the fiscal years ended Sept. 30, 2017, and Sept. 30, 2016:

(Millions of dollars)	2017	2016	Cash Increase (Decrease)	% Change
Cash and cash equivalents at beginning of year	$ 579.6	$ 646.7	$ (67.1)	(10)%
Cash flows from				
Operating activities	1,278.9	854.8	424.1	50
Investing activities	(423.7)	(265.4)	(158.3)	60
Financing activities	(836.9)	(656.5)	(180.4)	27
Net increase (decrease) in cash and cash equivalents	18.3	(67.1)	85.4	(127)
Cash and cash equivalents at end of the year	$ 597.9	$ 579.6	$ 18.3	3

Operating activities

Net cash provided by FCRPS operating activities increased $424.1 million in fiscal year 2017. As a result of the factors previously discussed, the FCRPS had net revenues in fiscal year 2017 of $338.6 million, an increase of $61.4 million from fiscal year 2016. The increase in operating cash flows reflects changes in receivables and unbilled revenues. It also reflects an increase from fiscal year 2016 in accounts payable and other accrued liabilities of $163.8 million. However, the largest factor for the $424.1 million increase was a $199.3 million increase in deferred payments relating to short-term borrowing arrangements entered into by Energy Northwest. The deferred payments relate to cash requirements for Energy Northwest-related operations that Energy Northwest funded via borrowing arrangements with banking institutions instead of by payments from BPA. (See Expense borrowing arrangement by Energy Northwest section in this Management's Discussion and Analysis.)

Investing activities

Net cash used for FCRPS investing activities increased $158.3 million in fiscal year 2017, primarily due to a $165.4 million net change in U.S. Treasury securities.

BPA continues to make significant investments in utility plant assets with $692.0 million invested in fiscal year 2017. Notable projects worked on include fiber cable upgrades, a new turbine at Chief Joseph Dam and upgrades to McNary Dam and Ice Harbor Dam. However, in fiscal year 2017 there was a decrease in utility plant investments of $116.3 million, primarily due to higher fiscal year 2016 capital work on upgrades and additions to the Celilo Converter Station, located in Wasco County, Oregon.

The timing and amounts of purchases and maturities of U.S. Treasury securities vary depending on operational and cash management needs. Consistent with past practice and BPA's cash management strategy, BPA continued to invest in U.S. Treasury market-based special securities, which are classified as investments on the Combined Balance Sheets if their original maturity dates exceed 90 days. These securities earn a higher rate of interest than do cash or cash equivalents.

Similar to fiscal year 2016, maturities of U.S. Treasury securities exceeded purchases, as BPA used the net proceeds for operational purposes, including to help make its fiscal year 2017 payment to the U.S. Treasury.

Fiscal year 2017 deposits to the Lease-Purchase Program restricted trust funds increased by $13.2 million. In fiscal year 2017, BPA entered into 12 leases totaling $103.8 million as compared to five lease-purchases totaling $90.6 million entered into for the same period in fiscal year 2016. Receipts from the lease-purchase restricted trust funds decreased by $86.7 million as a result of reduced expenditures to fund continuing Lease-Purchase Program construction.

Financing activities

Net cash used for FCRPS financing activities increased $180.4 million in fiscal year 2017. During fiscal year 2017, BPA continued to repay large amounts of comparatively higher-interest-rate federal appropriations.

BPA repaid $908.7 million in federal appropriations in fiscal year 2017, a decrease of $209.1 million from fiscal year 2016. The decrease is largely due to the $778.9 million paid in advance during fiscal year 2017, a decrease from the $958.7 million of federal appropriations paid in advance during fiscal year 2016. (See U.S. Treasury payment section in this Management's Discussion and Analysis.)

BPA borrowings from the U.S. Treasury during fiscal year 2017 totaled $250.0 million, a decrease of $179.0 million from fiscal year 2016. The entire $250.0 million was at fixed interest rates and were used to finance transmission assets.

Nonfederal debt proceeds decreased $307.5 million during fiscal year 2017. This decrease was primarily due to the fiscal year 2016 Celilo modernization project, as discussed in the fiscal year 2016 section.

Nonfederal debt repayment increased $243.5 million. The increase was primarily as a result of BPA funding the repayment of an Energy Northwest borrowing arrangement. (See Expense borrowing arrangement by Energy Northwest section in this Management's Discussion and Analysis).

In September 2017, one of the consolidated special purpose corporations from which BPA lease-purchases transmission facilities, NIFC VI, sold its lease receivable from BPA, rights to future lease revenue, and title to the leased assets to the IERA, an independent public instrumentality of the State of Idaho. NIFC VI's $200.0 million bank line of credit was replaced by a $200.8 million capital lease with the IERA. The net financial reporting effect of this transaction was a nonfederal debt cash repayment of $0.7 million and a $1.5 million noncash increase to nonfederal debt.

Fiscal year 2016 cash flows compared to fiscal year 2015

A comparison of FCRPS cash flows follows for the fiscal years ended Sept. 30, 2016, and Sept. 30, 2015:

(Millions of dollars)	2016	2015	Cash Increase (Decrease)	% Change
Cash and cash equivalents at beginning of year	$ 646.7	$ 859.2	$ (212.5)	(25)%
Cash flows from				
Operating activities	854.8	675.7	179.1	27
Investing activities	(265.4)	(1,106.3)	840.9	(76)
Financing activities	(656.5)	218.1	(874.6)	(401)
Net increase (decrease) in cash and cash equivalents	(67.1)	(212.5)	145.4	(68)
Cash and cash equivalents at end of the year	$ 579.6	$ 646.7	$ (67.1)	(10)

Operating activities

Net cash provided by FCRPS operating activities during fiscal year 2016 increased $179.1 million to $854.8 million when compared to fiscal year 2015. As a result of the factors previously discussed, the FCRPS had net revenues in fiscal year 2016 of $277.2 million as compared to net revenues of $404.7 million in fiscal year 2015, a decrease of $127.5 million. The increase in operating cash flows reflects changes in receivables and unbilled revenues, and to accounts payable and other accrued liabilities. However, the largest factor for the $179.1 million increase was a $259.0 million non-cash expense relating to a new borrowing arrangement for Energy Northwest. This amount relates to expenses reported by BPA and incurred for Energy Northwest-related operations that Energy Northwest funded via a borrowing arrangement with a bank instead of by payments from BPA. (See Expense borrowing arrangement by Energy Northwest section in this Management's Discussion and Analysis.)

Investing activities

Net cash used for FCRPS investing activities decreased $840.9 million to $265.4 million in fiscal year 2016, when compared to the 12 months ended Sept. 30, 2015. BPA continues to make significant investments in utility plant assets with $808.3 million invested in fiscal year 2016. However, in fiscal year 2016 there was a decrease in utility plant investments of $156.2 million, primarily due to higher fiscal year 2015 capital work on the Central Ferry-Lower Monumental and Big Eddy-Knight transmission lines, wood pole lines, access roads and upgrades and additions to the Celilo Converter Station. Modernization of the Celilo Convertor Station in Wasco County, Oregon and its return to commercial operations occurred in the third quarter of fiscal year 2016.

The net incremental maturities during fiscal year 2016 of U.S. Treasury market-based special securities classified as investments on the Combined Balance Sheets was $417.9 million, an increase of $555.7 million from the comparable period in the prior year. Maturities exceeded purchases during fiscal year 2016 as BPA used the net proceeds for operational purposes, including to help make its annual payment to the U.S. Treasury. Under a banking arrangement with the U.S. Treasury, BPA agreed to invest an additional $100 million annually in lower yield market-based special securities through fiscal year 2018 or until the Bonneville Fund with the U.S. Treasury

was fully invested. However, after BPA made its scheduled year-end U.S. Treasury payment on Sept. 30, 2016, BPA was considered to be fully invested in market-based special securities and will no longer earn interest-offset credits. Instead, BPA will continue to earn interest on its investments in market-based specials. BPA expects to earn a lower rate of interest on market-based securities than it had earned as interest-offset credits.

Fiscal year 2016 deposits to the Lease-Purchase Program restricted trust funds decreased by $115.2 million compared to fiscal year 2015 due to a reduction in the dollar amount of new lease-purchase commitments, which resulted in a reduction in the amounts held in the trust funds for construction costs in fiscal year 2016. Receipts from the lease-purchase restricted trust funds increased by $13.9 million from fiscal year 2015 as a result of ongoing expenditures to fund continuing Lease-Purchase Program construction.

Financing activities

Net cash used for FCRPS financing activities was $656.5 million during fiscal year 2016, a decrease of $874.6 million as compared to net cash provided by financing activities during fiscal year 2015.

BPA repaid $1.12 billion in federal appropriations in fiscal year 2016, an increase of $881.5 million from fiscal year 2015. The increase is largely due to the $958.7 million paid in advance during fiscal year 2016, a substantial increase from the $229.3 million of federal appropriations paid in advance during fiscal year 2015. (See U.S. Treasury payment section in this Management's Discussion and Analysis.)

BPA borrowings from the U.S. Treasury for fiscal year 2016 totaled $429.0 million, a decrease of $190.0 million from fiscal year 2015. Of the $429.0 million borrowed, $329.0 million was at fixed interest rates and $100.0 million was at variable interest rates. Borrowings were used to fund investments of:

- $254.2 million for transmission assets
- $136.8 million for federal system hydro generation assets
- $25.0 million for energy conservation measures associated with fiscal year 2015 activities
- $13.0 million for fish and wildlife measures

Beginning with fiscal year 2016, BPA no longer debt finances new energy conservation measures. Instead, BPA expenses these costs as incurred. In prior years, BPA financed a large portion of its energy conservation costs with the proceeds of bonds issued to the U.S. Treasury.

The repayment by BPA of borrowings from the U.S. Treasury was $319.0 million through fiscal year 2016, an increase of $106.7 million as compared to fiscal year 2015. These repayments included $289.0 million for short-term obligations used to fund the Celilo modernization project in Wasco County, Oregon. In July 2016, BPA obtained long-term financing for the Celilo project by entering into a lease-purchase agreement with the Port of Morrow, Oregon. Certain proceeds from this financing reimbursed BPA for its costs of construction enabling BPA to repay related U.S. Treasury borrowing. This agreement resulted in a $321.0 million increase to FCRPS nonfederal debt and a $319.1 million increase to cash, net of certain debt issuance costs.

Nonfederal debt proceeds increased $205.4 million during fiscal year 2016. This increase was primarily due to the Celilo modernization project, offset by reductions to other Lease-Purchase Program activity in fiscal year 2016, as previously discussed.

In June 2016, one of the consolidated special purpose corporations from which BPA leases transmission facilities, NIFC V, sold its lease receivable from BPA, rights to future lease revenue, and title to the leased assets to the Port of Morrow, Oregon, a port district located in Morrow County, Oregon. NIFC V's $118.0 million bank line of credit was replaced by a $115.1 million capital lease with the Port of Morrow, Oregon. The net financial reporting effect of this transaction was a nonfederal debt cash repayment of $3.8 million and a $0.9 million noncash increase to nonfederal debt.

Contractual Obligations and Federal Payments

Amounts shown in the following table include interest expense or represent undiscounted cash flows and may be higher than amounts for these line items reported on the Combined Balance Sheets and described in the related Notes to Financial Statements — Note 5, Asset Retirement Obligations; Note 7, Debt and Appropriations; and Note 9, Residential Exchange Program. Purchase power commitments are a period expense. Irrigation assistance and purchase power commitments are described in Note 13, Commitments and Contingencies.

As of September 30:

(Millions of dollars)	2018	2019	2020	2021	2022	2023+	Total
Nonfederal debt	$ 1,710	$ 734	$ 1,025	$ 1,197	$ 866	$ 5,183	$ 10,715
Borrowings from U.S. Treasury	247	728	530	406	342	4,618	6,871
Federal appropriations	66	66	66	66	73	3,960	4,297
IOU exchange benefits	232	232	245	245	259	1,665	2,878
Irrigation assistance	27	57	24	15	16	252	391
Purchase power commitments	82	78	44	33	-	-	237
Asset retirement obligations	5	5	5	6	6	195	222
REP refund amounts	77	76	-	-	-	-	153
Total	$ 2,446	$ 1,976	$ 1,939	$ 1,968	$ 1,562	$ 15,873	$ 25,764.

Critical Accounting Policies

Regulatory accounting

BPA's rates are designed to recover its cost of service. In connection with the rate-setting process, certain current costs or credits may be included in rates for recovery or refund over future periods. Under those circumstances, regulatory assets or liabilities are recorded in accordance with authoritative guidance for regulated operations. Such costs or credits are amortized during the periods they are scheduled in rates.

In order to apply regulatory accounting, an entity must have the statutory authority to establish rates that recover all costs, and rates so established must be charged to and collected from customers. If BPA's rates should become market-based, BPA would review any deferred costs and revenues for possible recognition in the Combined Statement of Revenues and Expenses in that period. Since BPA's rates are not structured to provide a rate of return, regulatory assets are recovered at cost without an additional rate of return. Amortization of these assets and liabilities is reflected in the Combined Statements of Revenues and Expenses.

Revenues

Revenues from sales of power and transmission are recognized either when the product is delivered or the service is provided. Operating revenues include estimates for unbilled power and transmission services that were delivered but not billed by the end of the fiscal year. Accrued unbilled revenues are estimated from forecasts based on multiple factors including streamflows, seasonality, weather, changes in electricity prices, and customer load and usage patterns. Consequently, the amount of accrued unbilled revenues can vary significantly from period to period.

Off-balance-sheet arrangements

The FCRPS is not engaged in any off-balance-sheet arrangements through unconsolidated limited purpose entities.

Adjusted Net Revenues

A comparison of Adjusted Net Revenues (ANR) follows for fiscal years 2017, 2016, and 2015:

(*Millions of dollars*)	2017	2016	2015
Net revenues (expenses)	$ 338.6	$ 277.2	$ 404.7
Adjustments			
Debt Service Reassignment actions[1]	7.8	7.5	6.5
Regional Cooperation Debt management actions[2]	(408.7)	(387.1)	(268.6)
Revenue requirement adjustment[3]	67.7	71.5	-
Adjusted Net Revenues	$ 5.4	$ (30.9)	$ 142.6

In fiscal year 2017, BPA continued the use of a Key Performance Indicator called Adjusted Net Revenues, a non-GAAP measurement designed to report net revenues after removing the current year effects of certain debt management actions and a rate mitigation adjustment. The effects of these actions and adjustment are not considered to be related to ongoing FCRPS operations, and BPA management has therefore determined that ANR is a better representation of FCRPS financial performance for the periods presented.

ANR is FCRPS net revenues adjusted to reflect:

1) The removal of the effect on FCRPS net revenues of "Debt Optimization" actions that were implemented for several continuous years beginning in fiscal year 2001. Debt Optimization involved the refinancing of Energy Northwest debt to extend its weighted-average maturity, which in turn enabled BPA to reduce the aggregate principal amount of bonds issued by BPA and then outstanding to the U.S. Treasury. Debt Optimization actions initially had the effect of increasing FCRPS net revenues over what they otherwise would have been in each of the fiscal years in which the actions occurred. In subsequent fiscal years, the repayment of the extended Energy Northwest debt has had the effect of decreasing reported FCRPS net revenues. An element of Debt Optimization, referred to as Debt Service Reassignment, continues to reduce FCRPS net revenues resulting in adjustments to derive the ANR amount.

2) The removal of the effect on FCRPS net revenues of Regional Cooperation Debt management actions, from and after fiscal year 2014, to extend the weighted-average maturity of Energy Northwest debt. These Regional Cooperation Debt management actions have enabled BPA to prepay relatively higher-interest-rate federal appropriations in lieu of the repayment of Energy Northwest debt that had otherwise been assumed to be repaid in BPA's power rate proposals for the fiscal year(s) in which the appropriations prepayments were made. Amounts related to Regional Cooperation Debt management actions vary from year to year depending on the change in the weighted-average maturities of the Energy Northwest debt.

3) The removal of the effect of an adjustment to the power rate case revenue requirement, which was accomplished through a revenue requirement offset. This offset was introduced so that the effects of certain Regional Cooperation Debt management and other cost management actions would serve to mitigate, to a limited extent, a rate increase. This offset limits upward power rate impacts of ceasing to debt finance energy conservation costs beginning in fiscal year 2016. The foregoing actions resulted in lower FCRPS net revenues than would be reported in their absence.

POWER ADMINISTRATION

Report of Independent Auditors

To the Administrator of the
Bonneville Power Administration,
United States Department of Energy

We have audited the accompanying combined financial statements of Federal Columbia River Power System (FCRPS), which comprise the combined balance sheets as of September 30, 2017 and 2016, and the related combined statements of revenues and expenses and of cash flows for each of the three years in the period ended September 30, 2017.

Management's Responsibility for the Combined Financial Statements

Management is responsible for the preparation and fair presentation of the combined financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of combined financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on the combined financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the combined financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the combined financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the combined financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the combined financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the combined financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the combined financial statements referred to above present fairly, in all material respects, the financial position of the Federal Columbia River Power System as of September 30, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended September 30, 2017 in accordance with accounting principles generally accepted in the United States of America.

PricewaterhouseCoopers LLP

October 27, 2017

PricewaterhouseCoopers LLP, 805 SW Broadway, Suite 800, Portland, OR 97205-3344
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Federal Columbia River Power System
Combined Balance Sheets

As of September 30

(Millions of Dollars)

	2017	2016
Assets		
Utility plant		
Completed plant	**$ 18,820.2**	$ 18,276.5
Accumulated depreciation	**(6,588.1)**	(6,310.4)
Net completed plant	**12,232.1**	11,966.1
Construction work in progress	**1,193.7**	1,312.0
Net utility plant	**13,425.8**	13,278.1
Nonfederal generation	**3,518.7**	3,504.8
Current assets		
Cash and cash equivalents	**597.9**	579.6
Short-term investments in U.S. Treasury securities	**30.1**	272.9
Accounts receivable, net of allowance	**48.5**	50.5
Accrued unbilled revenues	**297.2**	279.8
Materials and supplies, at average cost	**112.0**	111.9
Prepaid expenses	**55.1**	31.8
Total current assets	**1,140.8**	1,326.5
Other assets		
Regulatory assets	**5,961.1**	6,180.2
Nonfederal nuclear decommissioning trusts	**346.9**	314.3
Deferred charges and other	**278.3**	293.8
Total other assets	**6,586.3**	6,788.3
Total assets	**$ 24,671.6**	$ 24,897.7

The accompanying notes are an integral part of these financial statements.

Federal Columbia River Power System
Combined Balance Sheets

As of September 30

(Millions of Dollars)

	2017	2016
Capitalization and Liabilities		
Capitalization and long-term liabilities		
Accumulated net revenues	**$ 3,680.4**	$ 3,392.6
Debt		
Federal appropriations	**2,029.4**	2,866.9
Borrowings from U.S. Treasury	**4,918.6**	4,682.6
Nonfederal debt	**6,871.4**	7,158.2
Total capitalization and long-term liabilities	**17,499.8**	18,100.3
Commitments and contingencies (Note 13)		
Current liabilities		
Debt		
Borrowings from U.S. Treasury	**90.1**	76.1
Nonfederal debt	**1,390.9**	857.6
Accounts payable and other	**517.4**	437.2
Total current liabilities	**1,998.4**	1,370.9
Other liabilities		
Regulatory liabilities	**2,047.0**	2,143.8
IOU exchange benefits	**2,415.7**	2,551.9
Asset retirement obligations	**191.7**	185.7
Deferred credits and other	**519.0**	545.1
Total other liabilities	**5,173.4**	5,426.5
Total capitalization and liabilities	**$ 24,671.6**	$ 24,897.7

The accompanying notes are an integral part of these financial statements.

Federal Columbia River Power System

Combined Statements of Revenues and Expenses

For the Years Ended September 30

(Millions of Dollars)

	2017	2016	2015
Operating revenues			
Sales	**$ 3,440.5**	$ 3,283.5	$ 3,257.5
U.S. Treasury credits	**58.3**	77.2	82.3
Miscellaneous revenues	**71.0**	71.9	64.6
Total operating revenues	**3,569.8**	3,432.6	3,404.4
Operating expenses			
Operations and maintenance	**2,110.7**	2,025.3	1,959.2
Purchased power	**147.4**	111.7	76.3
Nonfederal projects	**241.3**	249.2	229.0
Depreciation and amortization	**485.0**	471.1	448.0
Total operating expenses	**2,984.4**	2,857.3	2,712.5
Net operating revenues	**585.4**	575.3	691.9
Interest expense and (income)			
Interest expense	**285.9**	353.8	355.7
Allowance for funds used during construction	**(33.0)**	(40.3)	(53.2)
Interest income	**(6.1)**	(15.4)	(15.3)
Net interest expense	**246.8**	298.1	287.2
Net revenues	**338.6**	277.2	404.7
Accumulated net revenues, beginning of year	**3,392.6**	3,175.7	2,823.1
Irrigation assistance	**(50.8)**	(60.3)	(52.1)
Accumulated net revenues, end of year	**$ 3,680.4**	$ 3,392.6	$ 3,175.7

The accompanying notes are an integral part of these financial statements.

Federal Columbia River Power System

Combined Statements of Cash Flows

For the Years Ended September 30

(Millions of Dollars)

	2017	2016	2015
Cash flows from operating activities			
Net revenues	**$ 338.6**	$ 277.2	$ 404.7
Adjustments to reconcile net revenues to cash provided by operations:			
Depreciation and amortization	**485.0**	471.1	448.0
Amortization of nonfederal projects	**67.2**	25.9	23.1
Deferred payments for Energy Northwest-related O&M and interest	**458.3**	259.0	-
Changes in:			
Receivables and unbilled revenues	**(13.4)**	8.3	(22.6)
Materials and supplies	**(0.1)**	5.0	(4.4)
Prepaid expenses	**(33.2)**	(4.4)	5.0
Accounts payable and other	**71.3**	(92.5)	(1.1)
Regulatory assets and liabilities	**92.3**	65.0	16.6
IOU exchange benefits	**(136.2)**	(132.0)	(111.6)
Other assets and liabilities	**(50.9)**	(27.8)	(82.0)
Net cash provided by operating activities	**1,278.9**	854.8	675.7
Cash flows from investing activities			
Investment in utility plant, including AFUDC	**(692.0)**	(808.3)	(964.5)
U.S. Treasury securities:			
Purchases	**(1,109.0)**	(939.0)	(1,323.0)
Maturities	**1,352.3**	1,356.9	1,185.2
Deposits to nonfederal nuclear decommissioning trusts	**(3.6)**	(3.5)	(3.4)
Lease-purchase trust funds:			
Deposits to	**(103.8)**	(90.6)	(205.8)
Receipts from	**132.4**	219.1	205.2
Net cash used for investing activities	**(423.7)**	(265.4)	(1,106.3)
Cash flows from financing activities			
Federal appropriations:			
Proceeds	**71.2**	83.0	48.0
Repayment	**(908.7)**	(1,117.8)	(236.3)
Borrowings from U.S. Treasury:			
Proceeds	**250.0**	429.0	619.0
Repayment	**-**	(319.0)	(212.3)
Nonfederal debt:			
Proceeds	**104.1**	411.6	206.2
Repayment	**(293.1)**	(49.6)	(121.7)
Customers:			
Net advances for construction	**21.7**	5.1	4.0
Repayment of funds used for construction	**(31.3)**	(38.5)	(36.7)
Irrigation assistance	**(50.8)**	(60.3)	(52.1)
Net cash (used for) and provided by financing activities	**(836.9)**	(656.5)	218.1
Net increase (decrease) in cash and cash equivalents	**18.3**	(67.1)	(212.5)
Cash and cash equivalents at beginning of year	**579.6**	646.7	859.2
Cash and cash equivalents at end of year	**$ 597.9**	$ 579.6	$ 646.7
Supplemental disclosures:			
Cash paid for interest, net of amount capitalized	**$ 316.1**	$ 376.2	$ 365.8
Significant noncash investing and financing activities:			
Nonfederal debt increase for Energy Northwest	**$ 1,046.2**	$ 320.7	$ 572.8
Nonfederal debt extinguished through refinancing for Energy Northwest	**$ (601.5)**	$ (217.9)	$ (359.7)
Other nonfederal	**$ (9.2)**	$ 11.6	$ 2.3

The accompanying notes are an integral part of these financial statements.

Notes to Financial Statements

1. Summary of Significant Accounting Policies

ACCOUNTING PRINCIPLES

Combination and consolidation of entities

The Federal Columbia River Power System (FCRPS) financial statements combine the accounts of the Bonneville Power Administration (BPA) with the accounts of the Pacific Northwest generating facilities of the U.S. Army Corps of Engineers (USACE) and the Bureau of Reclamation (Reclamation). The FCRPS combined financial statements also include the operations and maintenance costs of the U.S. Fish and Wildlife Service for the Lower Snake River Compensation Plan facilities. Consolidated with BPA are variable interest entities (VIE) of which BPA is the primary beneficiary, and from which BPA leases certain transmission facilities. As of Sept. 30, 2017, and 2016, BPA had consolidated one and two such VIEs, respectively. (See Note 7, Debt and Appropriations, and Note 8, Variable Interest Entities.)

BPA is a separate and distinct entity within the U.S. Department of Energy; the USACE is part of the U.S. Department of Defense; and Reclamation and U.S. Fish and Wildlife Service are part of the U.S. Department of the Interior. Each of the combined entities is separately managed, but the facilities are operated as an integrated power system with the financial results combined as the FCRPS. BPA is a self-funding federal power marketing administration that purchases, transmits and markets power for the FCRPS. While the costs of USACE and Reclamation projects serve multiple purposes, only the power portion of total project costs are assigned to the FCRPS through cost allocation processes. All intracompany and intercompany accounts and transactions have been eliminated from the FCRPS financial statements.

FCRPS financial statements are prepared in accordance with generally accepted accounting principles (GAAP) of the United States of America. FCRPS financial statements also reflect the Uniform System of Accounts (USoA) applicable to federal entities as prescribed for electric public utilities by the Federal Energy Regulatory Commission (FERC). FCRPS accounting policies also reflect other specific legislation and directives issued by U.S. government agencies. All U.S. government properties and income are tax exempt.

Use of estimates

The preparation of FCRPS financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the FCRPS financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Rates and regulatory authority

BPA establishes separate power and transmission rates in accordance with several statutory directives. Rates proposed by BPA are subject to an extensive formal hearing process, after which they are proposed by BPA and reviewed by FERC. FERC's review is based on BPA statutes that include a requirement that rates must be sufficient to ensure repayment of the federal investment in the FCRPS over a reasonable number of years after first meeting BPA's other costs. After the final FERC approval, BPA's rates may be reviewed by the United States Court of Appeals for the Ninth Circuit (Ninth Circuit Court) if challenged by parties involved in the rate proceedings. Petitions seeking such review must be filed within 90 days of the final FERC approval. The Ninth Circuit Court may either confirm or reject a rate proposed by BPA. BPA's rates are not structured to provide a rate of return on its assets.

In accordance with authoritative guidance for regulated operations, certain costs or credits may be included in rates for recovery or refund over a future period and are recorded as regulatory assets or liabilities. (See Note 4, Effects of Regulation.)

Utility plant

Utility plant is stated at original cost and includes federal system hydro generation assets (i.e., Pacific Northwest generating facilities of the USACE and Reclamation) as well as transmission and other assets. The costs of substantial additions, major replacements and substantial betterments are capitalized. Costs include direct labor and materials; payments to contractors; indirect charges for engineering, supervision and certain overhead items; and an allowance for funds used during construction (AFUDC). Maintenance, repairs and replacements of items determined to be less than major units of property are charged as incurred to Operations and maintenance in the Combined Statements of Revenues and Expenses. When utility plant is retired, the original cost and any net proceeds from the disposition are charged to accumulated depreciation. (See Note 2, Utility Plant.)

Depreciation and amortization

Depreciation of the original cost of generation plant is computed using straight-line methods based on estimated average service lives of the various classes of property. For transmission plant, depreciation of original cost and estimated net cost of removal is computed primarily on the straight-line group life method based on estimated average service lives of the various classes of property. The estimated net cost of removal is included in depreciation expense. (See Note 2, Utility Plant.)

In the event removal costs are expected to exceed salvage proceeds, a reclassification of this negative salvage is made from accumulated depreciation to a regulatory liability. As actual removal costs are incurred, the associated regulatory liability is reduced. (See Note 4, Effects of Regulation.)

Amortization expense relates to certain regulatory assets. (See Note 4, Effects of Regulation.)

Allowance for funds used during construction

AFUDC represents the estimated cost of interest on financing the construction of new assets. AFUDC is based on the construction work in progress balance and is charged to the capitalized cost of the utility plant asset. AFUDC is a reduction of interest expense.

AFUDC is capitalized at one rate for construction funded substantially by BPA and at another rate for USACE and Reclamation construction funded by congressional appropriations. The BPA rate is determined based on the weighted-average cost of borrowing for BPA and for the Lease-Purchase Program. (See discussion of the Lease-Purchase Program in Note 7, Debt and Appropriations.) The rate for appropriated funds is provided each year to BPA by the U.S. Treasury. (See Note 2, Utility Plant.)

Nonfederal generation

BPA is party to long-term contracts for BPA to acquire all of the generating capability of Energy Northwest's Columbia Generating Station (CGS) nuclear power plant and, through June 2032, Lewis County PUD's Cowlitz Falls Hydroelectric Project. These contracts require BPA to meet all of the facilities' operating, maintenance and debt service costs. Operations and maintenance and debt service expenses for these projects are recognized based upon annual total project cash funding requirements, which vary from year to year. The Nonfederal generation assets on the Combined Balance Sheets are amortized over the term of the related outstanding nonfederal debt, with the amortization expense included in Nonfederal projects in the Combined Statements of Revenues and Expenses. (See Note 7, Debt and Appropriations.)

Cash and cash equivalents

Cash amounts for the FCRPS include cash in the Bonneville Power Administration Fund (Bonneville Fund) within the U.S. Treasury and cash from certain unexpended appropriations of the USACE and Reclamation related to the FCRPS. Cash in the Bonneville Fund includes cash and cash equivalents, which consist of investments in non-marketable market-based special securities issued by the U.S. Treasury (market-based specials) with maturities of 90 days or less at the date of investment. The carrying value of cash and cash equivalents approximates fair value.

Concentrations of credit risks

General credit risk

Financial instruments that potentially subject the FCRPS to concentrations of credit risk consist primarily of BPA accounts receivable. Credit risk relates to the loss that might occur as a result of counterparty non-performance.

BPA's accounts receivable are spread across a diverse group of customers throughout the western United States and Canada, and include consumer-owned utilities (COUs), investor-owned utilities (IOUs), power marketers, wind generators and others. BPA's accounts receivable exposure is generally from large and stable counterparties and does not represent a significant concentration of credit risk. During fiscal years 2017, 2016 and 2015, BPA experienced no material losses as a result of any customer defaults or bankruptcy filings.

BPA mitigates credit risk by reviewing counterparties for creditworthiness, establishing credit limits and monitoring credit exposure. To further manage credit risk, BPA obtains credit support, such as letters of credit, parental guarantees, and cash in the form of prepayments, deposits or escrow funds, from some counterparties. BPA monitors counterparties for changes in financial condition and regularly updates credit reviews. (See Note 11, Risk Management and Derivative Instruments.)

Allowance for doubtful accounts

Management reviews accounts receivable to determine if any receivable will potentially be uncollectible. The allowance for doubtful accounts includes amounts estimated through an evaluation of specific customer accounts, based upon the best available facts and circumstances of customers that may be unable to meet their financial obligations, and a reserve for all other customers based on historical experience. The balance is not material to the financial statements.

Derivative instruments

Derivative instruments are measured at fair value and recognized on the Combined Balance Sheets as either Deferred charges and other or as Deferred credits and other unless the contract is eligible for the normal purchases and normal sales exception under derivatives and hedging accounting guidance. Derivative instruments reported by the FCRPS consist primarily of forward electricity contracts, which are generally considered normal purchases and normal sales if they require physical delivery, are expected to be used or sold in the normal course of business and meet the derivative accounting definition of capacity. Recognition of these contracts in Sales or Purchased power in the Combined Statements of Revenues and Expenses occurs when the contracts settle. (See Note 11, Risk Management and Derivative Instruments.)

Changes in fair value are deferred as either Regulatory assets or Regulatory liabilities on the Combined Balance Sheets in accordance with regulated operations accounting guidance. The FCRPS does not apply hedge accounting.

Fair value

Carrying amounts of current assets and current liabilities approximate fair value based on the short-term nature of these instruments. Fair value measurements are applied to certain financial assets and liabilities and to determine fair value disclosures in accordance with GAAP. When developing fair value measurements, it is BPA's policy to use quoted market prices whenever available or to maximize the use of observable inputs and minimize the use of unobservable inputs when quoted market prices are not available. Fair values are primarily developed using industry standard models that consider various inputs including quoted forward prices for commodities, time value, volatility factors, current market and contractual prices for underlying instruments, market interest rates and yield curves, and credit spreads, as well as other relevant economic measures. (See Note 11, Risk Management and Derivative Instruments and Note 12, Fair Value Measurements.)

Revenues and net revenues

Operating revenues are recorded when power, transmission and related services are delivered and include estimated unbilled revenues. Net revenues over time are committed to payment of operational obligations, including debt for both operating and non-operating nonfederal projects, debt service on bonds BPA issues to the U.S. Treasury, the repayment of federal appropriations for the FCRPS, and the payment of certain irrigation costs.

U.S. Treasury credits

U.S. Treasury credits represent nonpower-related costs that BPA recovers from the U.S. Treasury in accordance with certain laws. The primary U.S. Treasury credit is the 4(h)(10)(C) credit provided for in the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act). This Act requires BPA to recover the nonpower portion of expenditures BPA makes for fish and wildlife protection, mitigation and enhancement. Through Section 4(h)(10)(C), the Northwest Power Act ensures that the costs of mitigating these impacts are allocated between the power-related and other purposes of the federal hydroelectric projects of the FCRPS. Power-related costs are recovered in BPA's rates. U.S. Treasury credits are reported as a component of Operating revenues in the Combined Statements of Revenues and Expenses.

Purchased power

Purchased power expense represents wholesale power purchases that are meant to augment the FCRPS resource pool to meet loads and obligations. In addition, this expense includes the costs of certain water storage agreements between BPA and third parties. Purchased power excludes operations and maintenance expenses associated with CGS and the Cowlitz Falls Hydroelectric Project, and with certain contracts for renewable resources that BPA management considers part of the FCRPS resource pool.

Nonfederal projects

Nonfederal projects expense represents the amortization of nonfederal generation assets and regulatory assets for terminated nonfederal nuclear and hydro facilities, as well as the interest expense on the debt related to those assets. This expense varies from year to year and is recognized over the terms of the related outstanding debt, which reflect refinancing actions, if any, undertaken during the fiscal year.

Interest expense

Interest expense includes interest associated with the unpaid balance of federal appropriations scheduled for repayment, interest on bonds issued by BPA to the U.S. Treasury and interest on certain nonfederal debt and liabilities. Reductions to interest expense include the amortization of a capitalization adjustment regulatory liability. Interest expense excludes interest on nonfederal debt related to operating or terminated generation assets that is instead reported as a component of nonfederal projects expense. (See Note 7, Debt and Appropriations.)

Interest income

Interest income includes interest earnings on balances in the Bonneville Fund including market-based special securities and interest earnings from other sources. The U.S. Treasury provides investment services to federal government entities such as BPA that have funds on deposit with the U.S. Treasury and have legislative authority to invest those funds. Investments of the funds are generally restricted to special non-marketable securities, also called market-based specials. Interest earnings on U.S. Treasury market-based special investments are based on the stated rates of the individual securities. Beginning with fiscal year 2017, BPA ceased earning interest offset credits on balances in the Bonneville Fund. Through Sept. 30, 2016, however, BPA continued to earn interest offset credits on certain cash balances in the Bonneville Fund that were not invested in market-based specials. These credits reduced some interest payments, associated with federally appropriated investments in the FCRPS, in the amount of the interest earned. The interest offset credits were earned at the weighted-average interest rate of BPA's outstanding U.S. Treasury borrowings. (See Note 3, Investments in U.S. Treasury Securities.)

Residential Exchange Program

In order to provide qualifying regional utilities, primarily IOUs, access to power benefits from the FCRPS, Congress established the Residential Exchange Program (REP) in Section 5(c) of the Northwest Power Act. Whenever a Pacific Northwest electric utility offers to sell power to BPA at the utility's average system cost of resources, BPA purchases such power and offers, in exchange, to sell an equivalent amount of power at BPA's priority firm exchange rate to the utility for resale to that utility's residential and small farm consumers. REP costs are forecast for each year of the rate period and included in the revenue requirement for establishing BPA's power rates. The cost of this program is collected through BPA's power rates. REP costs are recognized when incurred and are included in Operations and maintenance in the Combined Statements of Revenues and Expenses.

In fiscal year 2011, BPA signed the 2012 Residential Exchange Program Settlement Agreement (2012 REP Settlement Agreement), resolving disputes related to the REP. The 2012 REP Settlement Agreement provides for fixed "Scheduled Amounts" payable to the IOUs, as well as fixed "Refund Amounts" payable to the COUs. The Refund Amounts do not reduce rates but are bill credits to qualifying COUs as designated in the 2012 REP Settlement Agreement. (See Note 9, Residential Exchange Program.)

Pension and other postretirement benefits

Federal employees associated with the operation of the FCRPS participate in either the Civil Service Retirement System or the Federal Employees Retirement System. Employees may also participate after retirement in the Federal Employees Health and Benefit Program and the Federal Employee Group Life Insurance Program. All such postretirement systems and programs are sponsored by the Office of Personnel Management; therefore, the FCRPS financial statements do not include accumulated plan assets or liabilities related to the administration of such programs. As part of BPA's scheduled payment each year to the U.S. Treasury for bonds and other purposes, BPA makes contributions to cover the estimated annual unfunded portion of FCRPS pension and postretirement benefits. These contribution amounts are paid to the U.S. Treasury and are recorded as Operations and maintenance in the Combined Statements of Revenues and Expenses during the year to which the payment relates.

RECENT ACCOUNTING PRONOUNCEMENTS

Revenue from contracts with customers

In May 2014, the Financial Accounting Standards Board (FASB) issued an Accounting Standards Update (ASU) on revenue from contracts with customers that supersedes the existing revenue recognition guidance, including most industry-specific guidance. The objective of the new standard is to provide a single, comprehensive revenue recognition model for all contracts with customers to improve comparability within industries and across industries. The new standard, including subsequent amendments, will be effective in fiscal year 2019. Management is evaluating the impact of this standard for potential changes on existing contracts and revenue streams in the amounts and timing of revenue recognition. The guidance can be applied retrospectively to each prior reporting period presented (full retrospective method) or retrospectively with a cumulative effect adjustment to accumulated net revenues for initial application of the guidance at the date of initial adoption (modified retrospective method). Due to continued revenue assessment, management has not yet elected a transition method.

Financial instruments, recognition and measurement

In January 2016, the FASB issued an ASU to address certain aspects of recognition, measurement, presentation and disclosure of financial instruments. The ASU supersedes existing guidance to classify equity securities as trading or available-for-sale and requires all equity securities to be measured at fair value with changes in fair value recognized through net revenues. In addition, the ASU exempts all entities that are not public business entities from disclosing fair value information for financial instruments measured at amortized cost. Management is evaluating the impact of adopting this guidance, which will be effective in fiscal year 2020.

Leases

In February 2016, the FASB issued an ASU on leases. The primary change under the ASU is the recognition of lease assets and lease liabilities by lessees for those agreements classified as operating leases. In addition, the guidance requires both quantitative and qualitative disclosures regarding amounts recognized in the financial statements and significant judgments made by management in applying the lease standard. Management anticipates an increase in assets and liabilities and increased financial disclosure as a result of the guidance. However, the magnitude of change and the impact to the financial statements continue to be under evaluation. For the FCRPS, the ASU is effective in fiscal year 2020.

Classification of certain cash receipts and cash payments in the statement of cash flows

In August 2016, the FASB issued an ASU to address eight specific cash flow issues with the objective of reducing the existing diversity in practice. Management is evaluating the impact of adopting this guidance, which will be effective in fiscal year 2020.

Restricted cash

In November 2016, the FASB issued an ASU to address the classification and presentation of changes in restricted cash on the statement of cash flows with the objective of reducing the existing diversity in practice. Management is evaluating the impact of adopting this guidance, which will be effective in fiscal year 2020.

Financial instruments, credit losses

In June 2016, the FASB issued an ASU to amend guidance related to credit losses on financial instruments held by a reporting entity. Instead of recognizing credit losses when such losses are probable, the ASU requires assets measured at amortized cost to be presented at the net amount expected to be collected. In addition, credit losses relating to available-for-sale debt securities are required to be recorded through an allowance for credit losses. Management is evaluating the impact of adopting this guidance, which will be effective in fiscal year 2022.

RECENTLY ADOPTED ACCOUNTING PRONOUNCEMENTS

Fees paid in cloud computing arrangements

On Oct. 1, 2016, BPA prospectively adopted ASU 2015-05, which addresses customer's accounting for fees paid in a cloud computing arrangement. The guidance requires that if a cloud computing arrangement includes the purchase of a license for internal-use software, certain costs should be capitalized in accordance with internal-use software accounting standards. Otherwise, the fees are expensed as a service contract. The impact of adopting this standard in fiscal year 2017 was not material to the FCRPS financial statements.

Presentation of debt issuance costs

On Oct. 1, 2016, BPA prospectively adopted ASU 2015-03 and 2015-15, which align the balance sheet presentation of debt issuance costs with that of debt premiums and discounts. Under previous guidance, debt discounts and premiums were reported as a direct deduction from or addition to the face amount of the debt liability, while debt issuance costs were capitalized as a separate deferred charge asset. The new guidance requires that debt issuance costs be accounted for as a deduction from the carrying amount of the debt liability. The impacts of this ASU to fiscal year 2017 financial statements were not material. Because the impacts of the new guidance were also not material to prior periods, comparative financial statements were not retrospectively adjusted.

SUBSEQUENT EVENTS

Management has performed an evaluation of events and transactions for potential FCRPS recognition or disclosure through Oct. 27, 2017, which is the date the financial statements were issued.

On Oct. 12, 2017, the parties to the California refund claims (see Note 13) filed a Joint Motion to Defer Consideration of the Petition at the United States Supreme Court because the parties had reached a settlement in principle. The settlement was not yet final as of Oct. 27, 2017, and has not been recognized in the fiscal year 2017 financial statements. BPA does not expect a material impact to fiscal year 2018 net revenues.

2. Utility Plant

As of Sept. 30 — millions of dollars	2017	2016	2017 Estimated average service lives
Completed plant			
Federal system hydro generation assets	$ 9,109.2	$ 8,964.4	75 years
Transmission assets	9,525.8	9,088.9	48 years
Other assets	185.2	223.2	7 years
Completed plant	$ 18,820.2	$ 18,276.5	
Accumulated depreciation			
Federal system hydro generation assets	$ (3,355.4)	$ (3,235.1)	
Transmission assets	(3,138.5)	(2,963.5)	
Other assets	(94.2)	(111.8)	
Accumulated depreciation	$ (6,588.1)	$ (6,310.4)	
Construction work in progress			
Federal system hydro generation assets	$ 567.5	$ 485.3	
Transmission assets	606.2	800.6	
Other assets	20.0	26.1	
Construction work in progress	$ 1,193.7	$ 1,312.0	
Net Utility Plant	$ 13,425.8	$ 13,278.1	

Allowance for funds used during construction

Fiscal year	2017	2016	2015
BPA rate	3.1%	3.0%	3.1%
Appropriated rate	0.6%	0.4%	0.1%

Completed plant assets reported as transmission capital leased assets were $1.71 billion and $1.29 billion, with accumulated depreciation of $93.8 million and $45.4 million, at Sept. 30, 2017, and 2016, respectively.

On May 18, 2017, BPA announced the decision to terminate the I-5 Corridor Reinforcement Project, a proposed 80-mile, 500-kilovolt transmission line that would have stretched from Castle Rock, Washington to Troutdale, Oregon. Cumulative capitalized costs associated with this project of $130.0 million were reclassified in fiscal year 2017 from Construction work in progress to a Regulatory asset on the Combined Balance Sheets, as these costs are expected to be recovered through future rates. (See Note 4, Effects of Regulation.)

3. Investments in U.S. Treasury Securities

As of Sept. 30 — millions of dollars	2017		2016	
	Amortized cost	Fair value	Amortized cost	Fair value
Short-term	$ 30.1	$ 30.1	$ 272.9	$ 272.9

BPA participates in the U.S. Treasury's Federal Investment Program, which provides investment services to federal government entities that have funds on deposit with the U.S. Treasury and statutory authority to invest those funds. Investments of the funds are generally restricted to U.S. Treasury market-based special securities. Beginning on Oct. 1, 2016, all balances in the Bonneville Fund were invested through the Federal Investment Program, and BPA ceased earning interest offset credits as it did during prior years. Instead, BPA now earns interest on cash balances it invests in market-based specials. Otherwise, cash remaining in the Bonneville Fund does not earn any interest.

Market-based specials held during fiscal years 2017 and 2016 had maturities of up to one year. These securities are carried at amortized cost, reflecting the ability and intent to hold the securities to maturity. The amounts shown in the preceding table exclude U.S. Treasury securities with maturities of 90 days or less at the date of investment, which are considered cash equivalents and are included on the Combined Balance Sheets as part of Cash and cash equivalents. The fair value measurements of investments in U.S. Treasury securities are considered Level 2 in the fair value hierarchy as defined by the accounting guidance for fair value measurements and disclosures. (See Note 12, Fair Value Measurements.)

4. Effects of Regulation

REGULATORY ASSETS

As of Sept. 30 — millions of dollars	2017	2016
IOU exchange benefits	$ 2,415.7	$ 2,551.9
Terminated nuclear facilities	1,786.3	1,879.6
Columbia River Fish Mitigation	741.0	711.0
Conservation measures	291.7	333.9
Fish and wildlife measures	255.9	282.6
REP Refund Amounts	150.0	222.8
Terminated I-5 Corridor Reinforcement Project	130.0	—
Legal claims and settlements	57.6	54.0
Spacer damper replacement program	46.5	47.6
Federal Employees' Compensation Act	29.6	27.5
Trojan decommissioning and site restoration	26.9	26.7
Terminated hydro facilities	11.6	13.1
Derivative instruments	10.7	21.2
Other	7.6	8.3
Total	$ 5,961.1	$ 6,180.2

Regulatory assets include the following items:

"**IOU exchange benefits**" reflect amounts to be recovered in rates through 2028 for the IOU exchange benefits liability incurred as part of the 2012 REP Settlement Agreement. These amounts are amortized to operations and maintenance expense. (See Note 9, Residential Exchange Program.)

"**Terminated nuclear facilities**" consist of amounts to be recovered in future rates to satisfy the nonfederal debt for Energy Northwest Projects 1 and 3. These assets are amortized to nonfederal projects expense over the term of the related outstanding debt. (See Note 7, Debt and Appropriations.)

"**Columbia River Fish Mitigation**" is the cost of research and development for fish bypass facilities funded through appropriations since 1989 in accordance with the Energy and Water Development Appropriations Act of 1989, Public Law 100-371. These costs are recovered in rates over 75 years and amortized to depreciation and amortization expense.

"**Conservation measures**" consist of the costs of deferred energy conservation measures to be recovered in future rates. These costs are amortized to depreciation and amortization expense over periods of 12 or 20 years. BPA deferred certain costs of energy conservation measures through fiscal year 2015 and, beginning with fiscal year 2016 and the BP-16 rate period, began expensing such costs as incurred.

"**Fish and wildlife measures**" consist of deferred fish and wildlife project expenses to be recovered in future rates. These costs are amortized to depreciation and amortization expense over a period of 15 years.

"**REP Refund Amounts**" are amounts that were established in the 2012 REP Settlement Agreement. (See Note 9, Residential Exchange Program.) These amounts are recovered in rates through 2019 from IOUs as a reduction in their IOU Exchange benefits and are equal to the regulatory liability for REP Refund Amounts to COUs.

"Terminated I-5 Corridor Reinforcement Project" consists of the costs to be recovered in future rates for preliminary construction and related activities for the I-5 Corridor Reinforcement Project. In May 2017, BPA terminated this construction project. These costs were reclassified from Construction work in progress to a Regulatory asset on the Combined Balance Sheets, as such costs are expected to be recovered through future rates. BPA expects that these costs will be amortized to depreciation and amortization expense beginning in fiscal year 2020. The amortization period will be determined prior to the BP-20 rate proposal, which is likely to conclude in fiscal year 2019.

"**Legal claims and settlements**" reflect amounts to be recovered in future rates to satisfy accrued liabilities related to outstanding legal claims and settlement agreements. These costs will be recovered and amortized to operations and maintenance expense over a period established by BPA.

"**Spacer damper replacement program**" consists of costs to replace deteriorated spacer dampers and are recovered in future rates under the Spacer Damper Replacement Program. These costs are amortized to depreciation and amortization expense over a period of 25 or 30 years.

"**Federal Employees' Compensation Act**" reflects the actuarial estimated amount of future payments for current recipients of BPA's worker compensation benefits. This amount equals the associated liability, and related expenses are recorded to operations and maintenance expense as payments are made. (See Note 6, Deferred Charges and Other.)

"**Trojan decommissioning and site restoration**" reflects the amount to be recovered in future rates for funding the asset retirement obligation (ARO) liability related to the former Trojan nuclear facility. This amount equals the associated liability. (See Note 5, Asset Retirement Obligations.)

"**Terminated hydro facilities"** consist of the amounts to be recovered in future rates to satisfy nonfederal debt for the Northern Wasco hydro project, for which BPA ceased its participation as recipient of the project's electric power. These assets are amortized to nonfederal projects expense over the term of the related outstanding debt. (See Note 7, Debt and Appropriations.)

"**Derivative instruments**" reflect the unrealized losses from BPA's derivative portfolio. These amounts are deferred over the corresponding underlying contract delivery months. (See Note 11, Risk Management and Derivative Instruments.)

REGULATORY LIABILITIES

As of Sept. 30 — millions of dollars	2017	2016
Capitalization adjustment	$ 1,212.4	$ 1,277.3
Accumulated plant removal costs	434.3	432.3
Decommissioning and site restoration	184.7	157.7
REP Refund Amounts to COUs	150.0	222.8
Derivative instruments	59.2	47.3
Other	6.4	6.4
Total	$ 2,047.0	$ 2,143.8

Regulatory liabilities include the following items:

"**Capitalization adjustment**" is the difference between the outstanding balance of federal appropriations, plus $100 million, before and after refinancing under the BPA Refinancing Section of the Omnibus Consolidated Rescissions and Appropriations Act of 1996 (Refinancing Act), 16 U.S.C. 838(l). Consistent with treatment in BPA's power and transmission rate cases, this adjustment is amortized over a 40-year period through fiscal year 2036. Amortization of the capitalization adjustment as a reduction to interest expense was $64.9 million each year for fiscal years 2017, 2016 and 2015.

"**Accumulated plant removal costs**" are the amounts previously collected through rates as part of depreciation expense. The liability will be reduced as actual removal costs are incurred. (See Note 1, Summary of Significant Accounting Policies.)

"**Decommissioning and site restoration**" is the amount previously collected through rates and invested in the related nonfederal nuclear decommissioning trusts in excess of the ARO balances for (i) CGS decommissioning and site restoration, and (ii) Energy Northwest Projects 1 and 4 site restoration. (See Note 5, Asset Retirement Obligations.)

"**REP Refund Amounts to COUs**" are the amounts previously collected through rates that are owed to qualifying COUs and will be provided as future bill credits through fiscal year 2019 as established in the 2012 REP Settlement Agreement. These amounts are equal to regulatory assets for REP Refund Amounts. (See Note 9, Residential Exchange Program.)

"**Derivative instruments**" reflect the unrealized gains from BPA's derivative portfolio. These amounts are deferred over the corresponding underlying contract delivery months. (See Note 11, Risk Management and Derivative Instruments.)

5. Asset Retirement Obligations

As of Sept. 30 — millions of dollars	2017	2016
Beginning Balance	$ 185.7	$ 184.8
Activities:		
Accretion	9.4	9.4
Expenditures	(3.9)	(2.7)
Revisions	0.5	(5.8)
Ending Balance	$ 191.7	$ 185.7

AROs are recognized based on the estimated fair value of the dismantlement and restoration costs associated with the retirement of certain tangible long-lived assets. The liability is adjusted for any revisions, expenditures and the passage of time. The FCRPS also has tangible long-lived assets such as federal hydro projects and transmission assets without an associated ARO because no obligation exists to remove these assets.

AROs include the following items as of Sept. 30, 2017:

CGS decommissioning and site restoration of $157.8 million
Trojan decommissioning of $26.9 million
Energy Northwest Projects 1 and 4 site restoration of $7.0 million

NONFEDERAL NUCLEAR DECOMMISSIONING TRUSTS

As of Sept. 30 — millions of dollars	2017		2016	
	Amortized cost	Fair value	Amortized cost	Fair value
Equity index funds	$ 217.5	$ 266.3	$ 152.6	$ 174.6
Bond index funds	61.4	60.9	118.6	120.5
U.S. government obligation mutual funds	21.0	19.7	19.5	19.2
Total	$ 299.9	$ 346.9	$ 290.7	$ 314.3

These assets represent trust fund account balances for decommissioning and site restoration costs. External trust fund accounts for decommissioning and site restoration costs for CGS are funded monthly and are charged to operations and maintenance expense. The decommissioning trust fund account was established to provide for decommissioning at the end of the project's safe storage period in accordance with Nuclear Regulatory Commission (NRC) requirements. The NRC requires that this period be no longer than 60 years from the time the plant ceases operations. Decommissioning funding requirements for CGS are based on an NRC decommissioning cost estimate and the license termination date, which is in 2043. The CGS trust fund accounts are funded and managed by BPA in accordance with NRC requirements and site certification agreements.

The investment securities in the decommissioning and site restoration trust fund accounts are classified as available-for-sale and recorded at fair value in accordance with accounting guidance for investments, debt and equity securities. Net unrealized and realized gains and losses on these investment securities are recognized as adjustments to the related regulatory liability, which represents the excess of the amount previously collected through rates over the current ARO balance. (See Note 4, Effects of Regulation.)

Contribution payments to the CGS trust fund accounts for fiscal years 2017, 2016 and 2015 were $3.6 million, $3.5 million and $3.4 million, respectively. BPA and Energy Northwest have no obligation to make further payments into the site restoration fund for Energy Northwest Projects 1 and 4.

Based on an agreement in place, BPA directly funds Eugene Water and Electric Board's 30 percent share of Trojan's decommissioning costs through current rates. Decommissioning costs are included in Operations and maintenance in the Combined Statements of Revenues and Expenses.

6. Deferred Charges and Other

As of Sept. 30 — millions of dollars	2017	2016
Lease-Purchase trust funds	$ 165.1	$ 197.7
Derivative instruments	59.2	47.3
Funding agreements	20.8	14.4
Settlements receivable	16.0	16.0
Spectrum Relocation Fund	12.8	13.3
Other	4.4	5.1
Total	$ 278.3	$ 293.8

Deferred Charges and Other include the following items:

"**Lease-Purchase trust funds**" are investments held in separate trust accounts outside the Bonneville Fund for the construction of leased transmission assets, the use of which BPA has acquired under lease-purchase agreements. The amounts held in trust are also used in part for debt service payments during the construction period and include an investment fund mainly for future principal and interest debt service payments. (See Note 7, Debt and Appropriations.) Interest income and realized and unrealized gains or losses on amounts held in trust for construction are recorded as AFUDC. Interest income and gains and losses on other trust balances are recorded as either income or expense in the period when earned.

Investments classified as trading were $144.5 million and $169.9 million, and those classified as held to maturity were $19.7 million and $19.8 million, at Sept. 30, 2017, and 2016, respectively. Trading investments are held for construction purposes and are stated at fair value based on quoted market prices. (See Note 12, Fair Value Measurements.) As of Sept. 30, 2017, and 2016, trust balances also included cash and cash equivalents of $0.9 million and $8.0 million, respectively.

"**Derivative instruments**" represent unrealized gains from BPA's derivative portfolio, which includes physical power purchase and sale transactions and power exchange transactions.

"**Funding agreements**" represent deferred costs associated with BPA's contractual obligations to determine the feasibility of certain joint transmission projects.

"**Settlements receivable**" represents interest earned and collectable by BPA on certain settlements, the principal of which has been collected. The timing of cash receipt of the interest is unknown.

"**Spectrum Relocation Fund**" was created to reimburse certain federal agencies such as BPA for the costs of replacing radio communication equipment displaced as a result of radio band frequencies no longer available to the affected federal agencies. These amounts previously received from the U.S. Treasury are held in the Bonneville Fund for the sole purpose of constructing replacement assets.

7. Debt and Appropriations

As of Sept. 30 — millions of dollars		2017		2016	
	Terms	Carrying Value	Weighted-Average Interest Rate	Carrying Value	Weighted-Average Interest Rate
Nonfederal debt					
Nonfederal generation:					
Columbia Generating Station	1.4 – 6.8% through 2044	$ 3,853.6	3.9%	$ 3,636.0	3.9 %
Cowlitz Falls Hydro Project	4.0 – 5.3% through 2032	75.6	5.1	78.9	5.1
Terminated nonfederal generation:					
Nuclear Project 1	1.6 – 5.0% through 2028	838.5	4.8	864.8	4.8
Nuclear Project 3	1.4 – 5.3% through 2028	1,044.2	4.8	1,068.1	4.8
Northern Wasco Hydro Project	1.9 – 5.0% through 2024	12.8	3.9	14.2	3.7
Lease-Purchase Program:					
Capital lease obligations	1.5 – 6.1% through 2042	2,012.3	2.7	1,707.7	2.7
NIFC debt	5.4% through 2034	118.8	5.4	319.6	3.3
Other capital lease obligations	3.4 – 7.4% through 2043	39.4	5.0	41.3	5.4
Customer prepaid power purchases	4.3 – 4.6% through 2028	267.1	4.5	285.2	4.5
Total Nonfederal debt		$ 8,262.3	3.8	$ 8,015.8	3.9
Federal debt and appropriations					
Borrowings from U.S Treasury	1.0 – 5.9% through 2047	$ 5,008.7	3.2	$ 4,758.7	3.1
Federal appropriations	2.4 – 7.2% through 2067	1,583.5	4.1	2,430.2	5.1
Federal appropriations (not scheduled for repayment)		445.9	n/a	436.7	n/a
Total Federal debt and appropriations		$ 7,038.1	3.4	$ 7,625.6	3.8
Total debt and appropriations		$ 15,300.4	3.7%	$15,641.4	3.8%

Nonfederal generation and Terminated nonfederal generation

BPA is party to long-term contracts for BPA to acquire all of the generating capability of Energy Northwest's Columbia Generating Station and, through June 2032, all of Lewis County PUD's Cowlitz Falls Hydroelectric Project. These contracts require that BPA meet all of the operating, maintenance and debt service costs for these projects. Under certain agreements, BPA also has financial responsibility for meeting all costs of Energy Northwest's Projects 1 and 3, including debt service costs of bonds and other financial instruments issued for the projects, even though these projects have been terminated. BPA is also required by a "Settlement and Termination Agreement" between BPA and Northern Wasco PUD to pay amounts equal to annual debt service on certain bonds of the Northern Wasco Hydro Project. Under the Settlement and Termination Agreement, BPA ceased its participation in this project.

BPA recognizes expenses for these nonfederal generation and terminated nonfederal generation projects based on annual total project cash funding requirements, which include debt service and operating and maintenance expense. BPA recognized operating and maintenance expense for these projects of $322.3 million, $263.2 million and $323.3 million in fiscal years 2017, 2016 and 2015, respectively, which is included in Operations and maintenance in the Combined Statements of Revenues and Expenses. Debt service expense for all projects of $241.3 million, $249.2 million and $229.0 million for fiscal years 2017, 2016 and 2015, respectively, is reported as Nonfederal projects in the Combined Statements of Revenues and Expenses. On the Combined Balance Sheets,

related assets for operating projects are included in Nonfederal generation. Related assets for terminated generation are included in Regulatory assets. (See Note 4, Effects of Regulation.)

As a result of debt management actions taken by Energy Northwest under a Regional Cooperation Debt effort with BPA, amounts otherwise collected in BPA's power and transmission rates during fiscal years 2017 and 2016 were not used to fund the Energy Northwest-related principal payments as originally scheduled, and as included in rates. Instead, these principal amounts were refinanced to fiscal year 2035 at the latest. Because of these debt management actions and the borrowings by Energy Northwest described below, BPA was able to prepay comparatively higher interest rate federal appropriations during fiscal years 2017 and 2016.

Energy Northwest debt of $2.00 billion is callable, in whole or in part, at Energy Northwest's option, on call dates between July 2018 and July 2027 at 100 percent of the principal amount.

Borrowings by Energy Northwest for expense-related purposes

As of Sept. 30 — millions of dollars	2017	2016
Amounts borrowed[1]	$ 458.3	$ 259.0
Approximate variable interest rate	1.6%	0.8%

[1] Amounts outstanding at September 30 of each fiscal year are included in the applicable nonfederal debt amounts shown in the table at the beginning of Note 7, Debt and Appropriations.

During fiscal years 2017 and 2016, Energy Northwest funded operations and maintenance for CGS and interest expense on certain bonds with borrowing arrangements from banking institutions. Interest expense funded with these arrangements relate to CGS and terminated nuclear Projects 1 and 3. These arrangements were due to be repaid on or before June 30, 2018, and June 30, 2017, respectively. In February 2017, BPA funded the repayment of $249.1 million that Energy Northwest borrowed under its fiscal year 2016 borrowing arrangement. Energy Northwest paid the remaining $9.9 million out of cash on hand.

Energy Northwest-related expenses recorded in the FCRPS Combined Statements of Revenues and Expenses were not affected by the foregoing borrowing arrangements. Instead of providing funds to Energy Northwest for operations and maintenance and interest expense purposes, BPA will fund the repayment of the borrowing arrangements.

Lease-Purchase Program and Other capital lease obligations

Under the Lease-Purchase Program, BPA has incurred capital lease obligations for lease-purchase transactions with certain third-party entities. These transactions are primarily with the Port of Morrow, a port district located in Morrow County, Oregon, and the Idaho Energy Resources Authority (IERA), an independent public instrumentality of the State of Idaho, for transmission facilities, including lines, substations and general plant assets. These capital lease obligations are paid from the rental payments made by BPA. The facilities themselves are not security for the payment of these obligations. The lease-purchase agreements contain provisions that allow BPA to purchase the related assets at any time during each lease term for a bargain purchase price plus the value of the related outstanding debt instrument. (See Note 8, Variable Interest Entities.)

Also under the Lease-Purchase Program, BPA consolidates special purpose corporations, collectively referred to as Northwest Infrastructure Financing Corporations (NIFCs). These entities issue debt to and receive advances from nonfederal sources, which are used to finance construction of transmission facilities leased to BPA. The NIFCs had issued $119.6 million in bonds, including debt issuance cost, as of both Sept. 30, 2017, and 2016, and had borrowed $0 million and $200.0 million on a line of credit as of Sept. 30, 2017, and 2016, respectively. The rental payments from BPA are pledged to the payment of the debt, but the facilities themselves do not secure the debt. The NIFC bonds are reported as NIFC debt and are subject to redemption by the issuing NIFC, in whole or in part, at any date, at the higher of the principal amount of the bonds or the present value of the bonds discounted using the U.S. Treasury rate plus a premium of 12.5 basis points.

On the Combined Balance Sheets, capital lease obligations and NIFC debt are included in Nonfederal debt. The related assets are included in Utility plant and Deferred charges and other for unspent funds held in trust accounts outside the Bonneville Fund. The capital lease obligations expire on various dates through 2043.

Completed plant assets reported as transmission capital leased assets are described in Note 2, Utility Plant.

In fiscal years 2017 and 2016, the NIFC VI and NIFC V entities sold their lease receivables, rights to future lease revenues, and title to their leased assets to the IERA and Port of Morrow, respectively. This resulted in the $200.0 million NIFC VI and $118.0 million NIFC V bank lines of credit being extinguished and the new arrangements being reported as capital lease obligations of $200.8 million and $115.1 million instead of as NIFC debt. These transactions resulted in significant other nonfederal noncash activities on the Combined Statement of Cash Flows of $1.5 million and $0.9 million for fiscal years 2017 and 2016, respectively. These transactions also resulted in increases of $207.4 million and $124.9 million to transmission capital leased assets in fiscal years 2017 and 2016, respectively, with an immaterial net change in both fiscal years to Completed plant on the Combined Balance Sheets. (See Note 2, Utility Plant.)

Customer prepaid power purchases

During fiscal year 2013, BPA entered into agreements with four regional COUs for the advance payment of portions of their power purchases. Under this program, customers purchased prepaid power in blocks through fiscal year 2028. For each block purchased, BPA repays the prepayment, with interest, as monthly fixed credits on the customers' power bills.

In March 2013, BPA received $340.0 million representing $474.3 million in scheduled credits for blocks purchased by customers. BPA accounts for the prepayment proceeds as a financing transaction and reports the value of the obligations associated with the fixed credits as a prepayment liability. Interest expense is recognized using a weighted-average effective interest rate of 4.5 percent. The prepaid liability is reduced and the credits are applied as power is delivered through fiscal year 2028.

Borrowings from U.S. Treasury

BPA is authorized by Congress to issue and sell to the U.S. Treasury, and have outstanding at any one time, up to $7.70 billion aggregate principal amount of bonds. Of the $7.70 billion in U.S. Treasury borrowing authority, $1.25 billion is available for electric power conservation and renewable resources, including capital investment at the FCRPS hydroelectric facilities owned by the USACE and Reclamation, and $6.45 billion is available for BPA's transmission capital program and to implement BPA's authorities under the Northwest Power Act. Of the $7.70 billion, $750.0 million can be issued to finance Northwest Power Act related expenses. The interest on BPA's outstanding bonds is set at rates comparable to rates on debt issued by other comparable federal government institutions at the time of issuance. Bonds can be issued with call options.

As of Sept. 30, 2017, no bonds were outstanding related to Northwest Power Act expenses. Outstanding bonds carrying a variable rate of interest were $800.0 million at both Sept. 30, 2017, and 2016.

Of the outstanding U.S. Treasury borrowings, $218.8 million is not subject to redemption prior to their stated maturities. As of Sept. 30, 2017, $800.0 million of variable-rate bonds are callable by BPA at par value on their interest repricing dates, which occurs every six months. The remaining $3.99 billion of bonds are callable by BPA at a premium or discount, which is calculated based on the current government agency rates for the remaining term to maturity at the time the bonds are called.

In fiscal years 2017 and 2016, BPA did not call any bonds it had issued to the U.S. Treasury. During fiscal years 2017 and 2016, BPA refinanced $96.1 million and $284.0 million of U.S. Treasury bonds in noncash transactions with the U.S. Treasury, which resulted in no gain or loss for either year. BPA does not report these refinanced bonds as part of its annual payment to the U.S. Treasury.

Federal appropriations

Federal appropriations reflect the responsibility that BPA has to repay congressionally appropriated amounts in the FCRPS. Federal appropriations repayment obligations consist primarily of the remaining unpaid power portion of USACE and Reclamation capital investments funded through congressional appropriations and include appropriations for Columbia River Fish Mitigation as allocated to the power purpose of the USACE's FCRPS hydroelectric projects.

BPA is obligated to establish rates to repay to the U.S. Treasury appropriations for federal generation and transmission plant investments within a specified repayment period, which is the reasonably expected service life of the facilities, not to exceed 50 years. Federal appropriations may be paid early without penalty at their par value (i.e. carrying value for federal appropriations) as a part of BPA's payment to the U.S. Treasury. BPA repaid appropriations early in fiscal years 2017 and 2016. BPA establishes schedules for the repayment of federal appropriations when it establishes its power and transmission rates. These schedules can change depending on whether appropriations have been prepaid or deferred. Interest on appropriated amounts begins accruing when the related assets are placed into service.

	Maturing Nonfederal debt excluding capital leases	Future minimum lease payments under capital leases	Borrowings from U.S. Treasury	Federal appropriations	Total
As of Sept. 30 — millions of dollars					
2018	$ 1,389.0	$ 58.8	$ 90.1	$ -	$ 1,537.9
2019	444.8	69.4	574.9	-	1,089.1
2020	386.0	435.1	389.0	-	1,210.1
2021	386.0	623.2	275.0	-	1,284.2
2022	390.9	303.8	218.0	7.4	920.1
2023 and thereafter	3,214.6	1,061.8	3,461.7	2,022.0	9,760.1
Total	$ 6,211.3	$ 2,552.1	$ 5,008.7	$ 2,029.4	$ 15,801.5
Less: Executory costs	-	27.0	-	-	27.0
Less: Amount representing interest	-	473.3	-	-	473.3
Less: Unamortized debt issuance cost	0.8	-	-	-	0.8
Present value of debt	6,210.5	2,051.8	5,008.7	2,029.4	15,300.4
Less: Current portion	1,389.0	1.9	90.1	-	1,481.0
Long-term debt	$ 4,821.5	$ 2,049.9	$ 4,918.6	$ 2,029.4	$ 13,819.4

Fair Value of Debt and Appropriations

See Note 12, Fair Value Measurements, for a comparison of carrying value to fair value for debt. Due to the current par value call provision on BPA's federal appropriations, the fair value of BPA's federal appropriations is equal to the carrying value. This call provision allows BPA to prepay appropriations repayment obligations without premiums or a mark-to-market adjustment.

8. Variable Interest Entities

A VIE is an entity that does not have sufficient equity at risk to finance its activities without additional financial support or whose equity investors lack characteristics of a controlling financial interest. An enterprise that has a controlling interest is known as the VIE's primary beneficiary and is required to consolidate the VIE.

Management reviews executed lease-purchase agreements with nonfederal entities, such as the NIFCs. Because BPA is the primary beneficiary of the NIFCs, the entities are consolidated. The key factors in this determination are BPA's ability to take contractual actions that significantly impact the economic, commercial and operating activities of the NIFCs and BPA's obligation to absorb losses that could be significant to the NIFCs. Additionally, BPA's lease-purchase agreements with the NIFC entities obligated BPA to absorb the operational and commercial risks, and thus potentially significant benefits or losses associated with the underlying transmission facilities. BPA also has exclusive use and control of the facilities during the lease periods and has indemnified the NIFC entities for all construction and operating risks associated with their respective transmission facilities.

Amounts related to the NIFC entities include Lease-Purchase trust funds and other assets of $20.4 million and $21.8 million and Nonfederal debt of $118.8 million and $319.6 million as of Sept. 30, 2017, and 2016, respectively. BPA has also entered into lease-purchase agreements with Port of Morrow and IERA, which are nonfederal entities. These entities are governmental and, in accordance with VIE accounting guidance, are therefore not consolidated into the FCRPS financial statements. (See Note 7, Debt and Appropriations.)

BPA has entered into power purchase agreements with wind farm-related VIEs, which, because of their pricing arrangements, provide that BPA absorb commodity price risk from the perspective of the counterparty entities. However, BPA management has concluded that in no instance does BPA have the power to control the most significant operating and maintenance activities of these entities and, therefore, BPA is not the primary beneficiary and does not consolidate these entities. Additionally, BPA does not provide, and does not plan to provide, any additional financial support to these entities beyond what BPA is contractually obligated to pay. Thus, BPA has no exposure to loss on contracts with these VIEs. Expenses related to VIEs for which BPA is not the primary beneficiary were $19.8 million, $21.6 million and $19.7 million in fiscal years 2017, 2016 and 2015, respectively. These expenses were recorded to operations and maintenance as BPA management considers the related purchases to be part of the FCRPS resource pool.

9. Residential Exchange Program

REP SCHEDULED AMOUNTS

As of Sept. 30 — millions of dollars		
2018	$	232.2
2019		232.2
2020		245.2
2021		245.2
2022		259.0
2023 through 2028		1,664.5
Subtotal of annual payments		2,878.3
Less: Discount for present value		462.6
IOU exchange benefits	$	2,415.7

BACKGROUND

As provided in the Northwest Power Act, in 1981 BPA began to implement the REP through various contracts with eligible regional utility customers. BPA's implementation of the REP has been the subject of various litigations and settlement agreements.

2012 RESIDENTIAL EXCHANGE PROGRAM SETTLEMENT AGREEMENT

Beginning in April 2010, over 50 litigants and other regional parties entered into mediation to resolve numerous disputes over the REP. In February 2011 the parties reached a final settlement agreement – the 2012 Residential Exchange Program Settlement Agreement (2012 REP Settlement Agreement), and in July 2011 BPA also signed the 2012 REP Settlement Agreement. In fiscal year 2012, BPA recorded an associated long-term IOU exchange benefits liability and corresponding regulatory asset of $3.07 billion. Under the 2012 REP Settlement Agreement, the IOU's REP benefits were determined for fiscal years 2012-2028 (also referred to herein as Scheduled Amounts). The Scheduled Amounts started at $182.1 million for fiscal year 2012 and increase over time to $286.1 million for fiscal year 2028. As provided in the 2012 REP Settlement Agreement, the Scheduled Amounts are established for each IOU based on the IOU's average system cost, its residential exchange load and BPA's applicable Priority Firm Exchange rate. The Scheduled Amounts total $4.07 billion over the 17-year period through fiscal year 2028, with remaining Scheduled Amounts as of Sept. 30, 2017, totaling $2.88 billion. Amounts recorded of $2.42 billion at Sept. 30, 2017, represent the present value of future cash outflows for these IOUs exchange benefits.

REP SETTLEMENT AGREEMENT REFUND AMOUNTS

In addition to Scheduled Amounts, the 2012 REP Settlement Agreement calls for Refund Amounts to be paid to COUs in the amount of $76.5 million each year from fiscal year 2012 through fiscal year 2019. The Refund Amounts were established as a regulatory asset and regulatory liability for the refunds that will be provided to COU customers as bill credits. The 2012 REP Settlement Agreement established Refund Amounts totaling $612.3 million, with remaining refunds as of Sept. 30, 2017, totaling $153.1 million. Amounts recorded as a regulatory liability of $150.0 million at Sept. 30, 2017, represent the present value of future cash flows for the amounts to be refunded to COUs.

10. Deferred Credits and Other

As of Sept. 30 — millions of dollars	2017	2016
Customer reimbursable projects	$ 191.8	$ 196.8
Generation interconnection agreements	134.6	142.2
Third AC Intertie capacity agreements	94.9	97.7
Legal claims and settlements	35.0	34.4
Federal Employees' Compensation Act	29.6	27.5
Fiber optic leasing fees	15.3	18.0
Derivative instruments	10.7	21.2
Other	7.1	7.3
Total	$ 519.0	$ 545.1

Deferred Credits and Other include the following items:

"**Customer reimbursable projects**" consist of advances received from customers where either the customer or BPA will own the resulting asset. If the customer will own the asset under construction, the revenue is recognized as the expenditures are incurred. If BPA will own the resulting asset, the revenue is recognized over the life of the asset once the corresponding asset is placed in service.

"**Generation interconnection agreements**" are generators' advances held as security for requested new network upgrades and interconnection. These advances accrue interest and will be returned as cash or credits against future transmission service on the new or upgraded lines.

"**Third AC Intertie capacity agreements**" reflect unearned revenue from customers related to the Third AC Intertie transmission line capacity project. Revenue is recognized over an estimated 49-year life of the related assets, which are generally added and retired each year.

"**Legal claims and settlements**" reflect amounts accrued for outstanding legal claims and settlements. (See Note 13, Commitments and Contingencies.)

"**Federal Employees' Compensation Act**" reflects the actuarial estimated amount of future payments for current recipients of BPA's worker compensation benefits.

"**Fiber optic leasing fees**" reflect unearned revenue related to the leasing of fiber optic cables. Revenue is recognized over the lease terms extending through 2024.

"**Derivative instruments**" reflect the unrealized loss of the derivative portfolio, which primarily includes physical power purchase and sale transactions.

11. Risk Management and Derivative Instruments

BPA is exposed to various forms of market risks related to commodity prices and volumes, counterparty credit, and interest rates. Non-performance risk, which includes credit risk, is described in Note 12, Fair Value Measurements. BPA has formalized risk management processes in place to manage agency risks, including the use of derivative instruments. The following sections describe BPA's exposure to and management of certain risks.

RISK MANAGEMENT

Due to the operational risk posed by fluctuations in river flows and electricity market prices, net revenues that result from underlying surplus or deficit energy positions are inherently uncertain. BPA's Risk Oversight Committee has responsibility for the oversight of market risk and determines the transactional risk policy and control environment at BPA. Through simulation and analysis of the hydro supply system, experienced business and risk managers install market price risk measures to capture additional market-related risks, including credit and event risk.

COMMODITY PRICE RISK AND VOLUMETRIC RISK

BPA has exposure to commodity price risk through fluctuations in electricity market prices that affect the value of energy bought and sold. Volumetric risk is the uncertainty of energy production from the hydro system. The combination of the two results in net revenue uncertainty. BPA routinely models commodity price risk and volumetric risk through parametric calculations, Monte Carlo simulations and general market observations to derive net revenues at risk, mark-to-market valuations, value at risk and other metrics as appropriate. These metrics capture the uncertainty around single point forecasts in order to monitor changes in the revenue risk profile from changes in market price, market price volatility and forecasted hydro generation. BPA measures and monitors the output of these methods on a regular basis. In order to mitigate revenue uncertainty that is beyond BPA's risk tolerance, BPA enters into short-term and long-term purchase and sale contracts by using instruments such as forwards, futures, swaps, and options.

CREDIT RISK

Credit risk relates to the loss that might occur as a result of counterparty non-performance. BPA mitigates credit risk by reviewing counterparties for creditworthiness, establishing credit limits and monitoring credit exposure. To further manage credit risk, BPA obtains credit support, such as letters of credit, parental guarantees, and cash in the form of prepayments, deposits or escrow funds, from some counterparties. BPA monitors counterparties for changes in financial condition and regularly updates credit reviews. BPA uses scoring models, publicly available financial information and external ratings from major credit rating agencies to determine appropriate levels of credit for its counterparties.

During fiscal year 2017, BPA experienced no material losses as a result of any customer defaults or bankruptcy filings. As of Sept. 30, 2017, BPA had $103.5 million in credit exposure related to purchase and sale contracts after taking into account netting rights. Of this credit exposure, $60.1 million was related to sub-investment grade counterparties who provided letters of credit for $36.8 million. The letters of credit serve as a guarantee arrangement and mitigate BPA's credit risk exposure to these counterparties.

INTEREST RATE RISK

BPA has the ability to issue variable rate bonds to the U.S. Treasury. BPA manages the interest rate risk presented by variable rate U.S. Treasury debt by holding U.S. Treasury security investments with a similar maturity profile. These U.S. Treasury investments earn interest that is correlated, but not identical, to the interest rate paid on U.S. Treasury variable rate debt. Energy Northwest may also issue variable rate debt for which BPA is expected to fund the repayment. (See Note 3, Investments in U.S. Treasury Securities and Note 7, Debt and Appropriations.)

DERIVATIVE INSTRUMENTS

Commodity Contracts

BPA's forward electricity contracts are eligible for the normal purchases and normal sales exception if they require physical delivery, are expected to be used or sold by BPA in the normal course of business and meet the derivative accounting definition of capacity described in the derivatives and hedging accounting guidance. These transactions are not recorded at fair value in the financial statements. Recognition of these contracts in Sales or Purchased power in the Combined Statements of Revenues and Expenses occurs when the contracts are delivered and settled.

For derivative instruments not eligible for the normal purchases and normal sales exception, BPA records unrealized gains and losses in Regulatory assets and Regulatory liabilities on the Combined Balance Sheets. Realized gains and losses are included in Sales and Purchased power in the Combined Statements of Revenues and Expenses as the contracts are delivered and settled.

When available, quoted market prices or prices obtained through external sources are used to measure a contract's fair value. For contracts without available quoted market prices, fair value is determined based on internally developed modeled prices. (See Note 12, Fair Value Measurements.)

As of Sept. 30, 2017, the derivative commodity contracts recorded at fair value totaled 4.1 million megawatt hours (MWh), gross basis, with delivery months extending to September 2022.

On the Combined Balance Sheets, BPA reports gross fair value amounts of derivative instruments subject to a master netting arrangement, excluding contracts designated as normal purchases or normal sales. (See Note 6, Deferred Charges and Other and Note 10, Deferred Credits and Other.) In the event of default or termination, contracts with the same counterparty are offset and net settle through a single payment. BPA does not offset cash collateral against recognized derivative instruments with the same counterparty under the master netting arrangements.

If netted by counterparty, BPA's derivative position would result in an asset of $59.2 million and $47.3 million and a liability of $10.7 million and $21.2 million as of Sept. 30, 2017, and 2016, respectively. (See Note 4, Effects of Regulation.)

12. Fair Value Measurements

BPA applies fair value measurements and disclosures accounting guidance to certain assets and liabilities including commodity derivative instruments, nuclear decommissioning trusts and other investments. BPA maximizes the use of observable inputs and minimizes the use of unobservable inputs when measuring fair value. Fair value is based on actively quoted market prices, if available. In the absence of actively quoted market prices, BPA seeks price information from external sources, including broker quotes and industry publications. If pricing information from external sources is not available, BPA uses forward price curves derived from internal models based on perceived pricing relationships to major trading hubs.

BPA also utilizes the following fair value hierarchy, which prioritizes the inputs to valuation techniques used to measure fair value, into three broad levels:

Level 1 – Quoted prices (unadjusted) in active markets for identical assets and liabilities that BPA has the ability to access at the measurement date. Instruments categorized in Level 1 primarily consist of financial instruments such as exchange-traded financial futures, fixed income investments, equity mutual funds and money market funds.

Level 2 – Inputs other than quoted prices included within Level 1 that are either directly or indirectly observable for the asset or liability, including quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in inactive markets, inputs other than quoted prices that are observable for the asset or liability, and inputs that are derived from observable market data by correlation or other means. Instruments categorized in Level 2 include certain non-exchange traded commodity derivatives and certain agency, corporate and municipal securities as part of the Lease-Purchase trust funds investments. Fair value for certain non-exchange traded derivatives is based on forward exchange market prices and broker quotes adjusted and discounted. Lease-Purchase trust funds investments are based on a market input evaluation pricing methodology using a combination of observable market data such as current market trade data, reported bid/ask spreads, and institutional bid information.

Level 3 – Unobservable inputs for the asset or liability, including situations where there is little, if any, market activity for the asset or liability. Instruments categorized in Level 3 include long-dated and modeled commodity contracts where inputs into the valuation are adjusted market prices plus an adder.

The fair value hierarchy gives the highest priority to quoted prices in active markets (Level 1) and the lowest priority to unobservable data (Level 3). In some cases, the inputs used to measure fair value might fall in different levels of the fair value hierarchy. The lowest level input that is significant to a fair value measurement in its entirety determines the applicable level in the fair value hierarchy. Assessing the significance of a particular input to the fair value measurement in its entirety requires judgment, considering factors specific to the asset or liability.

BPA includes non-performance risk when calculating fair value measurements. This includes a credit risk adjustment based on the credit spreads of BPA's counterparties when in an unrealized gain position, or on BPA's own credit spread when in an unrealized loss position. BPA's assessment of non-performance risk is generally derived from the credit default swap market and from bond market credit spreads. The impact of the credit risk adjustments for all outstanding derivatives was immaterial to the fair value calculation at Sept. 30, 2017, and 2016. There were no transfers between Level 1 or Level 2 during fiscal years 2017 and 2016.

ASSETS AND LIABILITIES MEASURED AT FAIR VALUE ON A RECURRING BASIS

As of Sept. 30, 2017 — millions of dollars

	Level 1	Level 2	Level 3	Total
Assets				
Nonfederal nuclear decommissioning trusts				
Equity index funds	$ 266.3	$ —	$ —	$ 266.3
Bond index funds	60.9	—	—	60.9
U.S. government obligation mutual funds	19.7	—	—	19.7
Lease-Purchase trust funds				
U.S. government obligations	—	120.3	—	120.3
Corporate obligations	—	19.6	—	19.6
Municipal obligations	—	4.6	—	4.6
Derivative instruments [1]				
Commodity contracts	—	57.6	1.6	59.2
Total	$ 346.9	$ 202.1	$ 1.6	$ 550.6
Liabilities				
Derivative instruments [1]				
Commodity contracts	$ (0.1)	$ (10.6)	$ —	$ (10.7)
Total	$ (0.1)	$ (10.6)	$ —	$ (10.7)

As of Sept. 30, 2016 — millions of dollars

Assets				
Nonfederal nuclear decommissioning trusts				
Equity index funds	$ 174.6	$ —	$ —	$ 174.6
Bond index funds	120.5	—	—	120.5
U.S. government obligation mutual funds	19.2	—	—	19.2
Lease-Purchase trust funds				
U.S. government obligations	—	120.9	—	120.9
U.S. government sponsored enterprise obligations	—	22.8	—	22.8
Municipal obligations	—	13.2	—	13.2
Corporate obligations	—	13.0	—	13.0
Derivative instruments [1]				
Commodity contracts	—	47.3	—	47.3
Total	$ 314.3	$ 217.2	$ —	$ 531.5
Liabilities				
Derivative instruments [1]				
Commodity contracts	$ —	$ (21.2)	$ —	$ (21.2)
Total	$ —	$ (21.2)	$ —	$ (21.2)

[1] Derivative instruments assets and liabilities are included in Deferred charges and other and Deferred credits and other, respectively, on the Combined Balance Sheets. (See Note 6, Deferred Charges and Other and Note 10, Deferred Credits and Other.) See Note 11, Risk Management and Derivative Instruments for more information related to BPA's risk management strategy and use of derivative instruments.

Level 3 derivative commodity contracts are power contracts measured at fair value on a recurring basis using the California-Oregon Border (COB) forward price curves. They include power contracts delivering to illiquid trading points or contracts without available market transactions for the entire delivery period; therefore, they are considered unobservable. Forward prices are considered a key component to contract valuations. All valuation pricing data is generated internally by BPA's risk management organization.

The risk management organization constructs the forward price curve through the use of available market prices, broker quotes and bid/offer spreads. In periods where market prices or broker quotes are not available, the risk management organization derives monthly prices by applying seasonal shaping based on historical broker quotes and spreads. Long-term prices are derived from internally developed or commercial models with both internal and external data inputs. BPA management believes this approach maximizes the use of pricing information from external sources and is currently the best option for valuation. Significant increases or decreases in the inputs would result in significantly higher or lower fair value measurements.

Forward power prices are influenced by, among other factors, the price of natural gas, seasonality, hydro forecasts, expectations of demand growth, planned changes in the regional generating plants, and the emergence of new marginal fuels for generation.

COMMODITY CONTRACTS

The following table presents the changes in the assets and liabilities measured at fair value on a recurring basis and included in the Level 3 fair value category.

As of Sept. 30 — millions of dollars	2017	2016
Beginning Balance	$ —	$ 70.4
Changes in unrealized gains (losses)[1]	1.6	(23.2)
Transfers out of Level 3 to Level 2	—	(47.2)
Ending Balance	$ 1.6	$ —

[1] Unrealized gains and losses are included in Regulatory assets and Regulatory liabilities on the Combined Balance Sheets. Realized gains and losses are included in Sales and Purchased power, respectively, in the Combined Statements of Revenues and Expenses.

During fiscal year 2016, transfers out of Level 3 occurred when the significant inputs became more observable, such as when the time between the valuation date and the delivery term of a transaction became shorter.

DEBT

As of Sept. 30 — millions of dollars	2017		2016	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Nonfederal Debt				
Nonfederal generation:				
Columbia Generating Station	$ 3,853.6	$ 4,178.2	$ 3,636.0	$ 4,062.9
Cowlitz Falls Project	75.6	88.2	78.9	83.9
Terminated nonfederal generation:				
Nuclear Project 1	838.5	988.5	864.8	1,004.4
Nuclear Project 3	1,044.2	1,170.7	1,068.1	1,205.8
Northern Wasco Hydro Project	12.8	14.2	14.2	14.7
Lease-Purchase Program:				
NIFC debt	118.8	143.4	319.6	359.1
Customer prepaid power purchases	267.1	267.1	285.2	285.2
Federal debt				
Borrowings from U.S. Treasury	$ 5,008.7	$ 5,424.0	$ 4,758.7	$ 5,409.9

The fair value measurements described above are considered Level 2 in the fair value hierarchy.

The fair value of Nonfederal debt, excluding the Customer prepaid power purchases, is based on a market input evaluation pricing methodology using a combination of market observable data such as current market trade data, reported bid/ask spreads and institutional bid information.

The opportunity to participate in the Customer prepaid power purchase program was made to a subset of BPA's power customers with repayment terms through billing credits extending to fiscal year 2028. Management believes that the customer prepaid power purchases are specific to BPA's operating environment and are nontransferable. As a result, the carrying value of customer prepay power purchases is equal to its fair value.

The fair value of Borrowings from U.S. Treasury is based on discounted future cash flows using interest rates for similar debt that could have been issued at Sept. 30, 2017, and 2016.

13. Commitments and Contingencies

INTEGRATED FISH AND WILDLIFE PROGRAM

The Northwest Power Act directs BPA to protect, mitigate and enhance fish and wildlife and their habitats to the extent they are affected by federal hydroelectric projects on the Columbia River and its tributaries, from which BPA markets power. BPA makes expenditures and incurs other costs for fish and wildlife protection and mitigation that are consistent with the purposes of the Northwest Power Act and the Pacific Northwest Power and Conservation Council's Columbia River Basin Fish and Wildlife Program. In addition, certain fish and wildlife species that inhabit the Columbia River Basin are listed under the Endangered Species Act (ESA) as threatened or endangered. BPA makes expenditures and incurs other costs related to power purposes to comply with the ESA and implement certain biological opinions (BiOp) prepared by the National Oceanic and Atmospheric Administration Fisheries Service and the U.S. Fish and Wildlife Service in furtherance of the ESA. BPA's total commitment including timing of payments under the Northwest Power Act, ESA and BiOp fluctuates because it is in part dependent on river flows and water conditions. As of Sept. 30, 2017, BPA has entered into long-term fish and wildlife agreements with estimated contractual commitments of $382.9 million, which are likely to result in future expenses or regulatory assets. These agreements will expire at various dates between fiscal years 2018 and 2025.

IRRIGATION ASSISTANCE

Scheduled distributions

As of Sept. 30 — millions of dollars		
2018	$	27.2
2019		56.6
2020		24.3
2021		14.8
2022		16.0
2023 through 2045		252.2
Total	$	391.1

As directed by law, BPA is required to establish rates sufficient to make distributions to the U.S. Treasury for original construction costs of certain Pacific Northwest irrigation projects for which the costs have been determined to be beyond the irrigators' ability to pay. These irrigation distributions do not specifically relate to power generation. In establishing power rates, particular statutory provisions guide the assumptions that BPA makes as to the amount and timing of such distributions. Accordingly, these distributions are not considered to be regular operating costs of the power program and are treated as distributions from accumulated net revenues when paid. Future irrigation assistance payments are scheduled to total $391.1 million over a maximum of 66 years since the time the irrigation facilities were completed and placed in service. BPA is required by the Grand Coulee Dam - Third Powerplant Act to demonstrate that reimbursable costs of the FCRPS will be returned to the U.S. Treasury from BPA within the period prescribed by law. BPA is required to

make a similar demonstration for the costs of irrigation projects to the extent the costs have been determined to be beyond the irrigators' ability to repay. These requirements are met by conducting power repayment studies including schedules of distributions at the proposed rates to demonstrate repayment of principal within the allowable repayment period. Irrigation assistance excludes $40.3 million for Teton Dam, which failed prior to completion and for which BPA has no obligation to repay.

FIRM PURCHASE POWER COMMITMENTS

As of Sept. 30 — millions of dollars		
2018	$	82.3
2019		77.6
2020		43.9
2021		33.6
Total	$	237.4

BPA periodically enters into long-term commitments to purchase power for future delivery. When BPA forecasts a resource shortage, based on its planned contractual obligations for a period and the historical water record for the Columbia River basin, BPA takes a variety of operational and business steps to cover a potential shortage including entering into power purchase commitments. Additionally, under BPA's current Tiered Rates Methodology and its current Regional Dialogue power sales contracts, BPA's customers may request that BPA meet their power requirements in excess of the Rate Period High Water Mark load under their contract. For these Above High Water Mark load requests, BPA may meet such requests by entering into power purchase commitments. The preceding table includes firm purchase power agreements of known costs that are currently in place to assist in meeting expected future obligations under BPA's current long-term power sales contracts. Included are seven purchases made specifically to meet BPA's commitments to sell power at Tier 2 rates in fiscal years 2018-2019 and two purchases to meet load obligations in Idaho. The expenses associated with Tier 2 purchases to meet prior commitments were $26.6 million, $22.1 million and $24.6 million for fiscal years 2017, 2016 and 2015, respectively. The expenses associated with the Idaho purchases, which are not included in the Tier 2 amounts, commenced July 1, 2016, and were $45.3 million and $9.0 million for fiscal years 2017 and 2016, respectively. BPA has several other purchase agreements with wind-powered and other generating facilities that are not included in the preceding table as payments are based on the variable amount of future energy generated and as there are no minimum payments required.

ENERGY EFFICIENCY PROGRAM

BPA is required by the Northwest Power Act to meet the net firm power load requirements of its customers in the Pacific Northwest. BPA is authorized to help meet its net firm power load through the acquisition of electric conservation. BPA makes available a portfolio of initiatives and infrastructure support activities to its customers to ensure the conservation targets established in the Northwest Power and Conservation Council's then-current Power Plan are achieved. The Council released the Seventh Power Plan in fiscal year 2016. These initiatives and activities are often executed via conservation commitments made by BPA to its customers through $147.2 million of agreements with utility customers and contractors that provide support in the way of energy efficiency program research, development and implementation. The timing of the payments under these commitments is not fixed or determinable, and these agreements will expire at various dates through fiscal year 2021.

1989 ENERGY NORTHWEST LETTER AGREEMENT

In 1989, BPA agreed with Energy Northwest that, in the event any participant shall be unable for any reason, or shall fail or refuse, to pay to Energy Northwest any amount due from such participant under its net billing agreement for which a net billing credit or cash payment to such participant has been provided by BPA, BPA will be obligated to pay the unpaid amount in cash directly to Energy Northwest.

NUCLEAR INSURANCE

BPA is a member of the Nuclear Electric Insurance Limited (NEIL), a mutual insurance company established to provide insurance coverage for nuclear power plants. The insurance policies purchased from NEIL by BPA include: 1) Primary Property and Decontamination Liability Insurance; 2) Decontamination Liability, Decommissioning Liability and Excess Property Insurance; and 3) NEIL I Accidental Outage Insurance.

Under each insurance policy, BPA could be subject to a retrospective premium assessment in the event that a member-insured loss exceeds reinsurance and reserves held by NEIL. The maximum assessment for the Primary Property and Decontamination Liability Insurance policy is $19.3 million. For the Decontamination Liability, Decommissioning Liability and Excess Property Insurance policy, the maximum assessment is $6.5 million. For the NEIL I Accidental Outage Insurance policy, the maximum assessment is $5.1 million.

As a separate requirement, BPA is liable under the Nuclear Regulatory Commission's indemnity for public liability coverage under the Price-Anderson Act. In the event of a nuclear accident resulting in public liability losses exceeding $450.0 million, BPA could be subject to a retrospective assessment of up to $121.3 million limited to $19.0 million per incident within one calendar year. Assessments would be included in BPA's costs and recovered through rates. As of Sept. 30, 2017, there have been no assessments to BPA under either of these programs.

ENVIRONMENTAL MATTERS

From time to time there are sites for which BPA, the USACE or Reclamation may be identified as potential responsible parties. Costs associated with cleanup of sites are not expected to be material to the FCRPS financial statements. As such, no material liability has been recorded.

INDEMNIFICATION AGREEMENTS

BPA, USACE and Reclamation have provided indemnifications of varying scope and terms in contracts with customers, vendors, lessors, trustees, and other parties with respect to certain matters, including, but not limited to, losses arising out of particular actions taken on behalf of the FCRPS, certain circumstances related to Energy Northwest Projects, and in connection with lease-purchases. Because of the absence of a maximum obligation in the provisions, management is not able to reasonably estimate the overall maximum potential future payments. Based on historical experience and current evaluation of circumstances, management believes that, as of Sept. 30, 2017, the likelihood is remote that the FCRPS would incur any significant costs with respect to such indemnities. No liability has been recorded in the financial statements with respect to these indemnification provisions.

LITIGATION

Southern California Edison

Southern California Edison (SCE) filed two separate actions pending in the U.S. Court of Federal Claims against BPA related to a power sales and exchange agreement (Sale and Exchange Agreement) between BPA and SCE. The actions challenged: 1) BPA's decision to convert the contract from a sale of power to an exchange of power as provided for under the terms of the contract (Conversion Claim); and 2) BPA's termination of the Sales and Exchange Agreement due to SCE's nonperformance (Termination Claim).

In 2006, BPA and SCE executed an agreement to settle the claims wherein BPA would make a payment of $28.5 million plus applicable interest to SCE if certain identified conditions were met, including a final resolution of BPA's claims pending in the California refund proceedings and related litigation as discussed below. BPA has recorded a liability of $35.0 million, including interest, on the basis that all conditions have been met except the final resolution in the California refund proceedings and related litigation, which management considers probable. BPA established an offsetting regulatory asset, as the costs will be collected in future rates.

California parties' refund claims

BPA was a party to proceedings at FERC that sought refunds for sales into markets operated by the California Independent System Operator and the California Power Exchange during the California energy crisis of 2000-

2001. In BPA v. FERC, 422 F.3d 908 (9th Cir. 2005) the Ninth Circuit Court found that governmental utilities, like BPA, were not subject to FERC's statutory authority to order market participants to pay refunds. As a consequence of the Ninth Circuit Court's decision, three California investor-owned utilities along with the State of California filed breach of contract claims in the United States Court of Federal Claims against BPA. The complaints, filed in 2007, alleged that BPA was contractually obligated to pay refunds on transactions where BPA received amounts in excess of mitigated market clearing prices retroactively established by FERC.

In May 2012, the Court of Federal Claims issued an opinion that held that BPA breached its contracts with the California parties. Assuming the amounts owed included interest, such refunds could have amounted up to $51.8 million. While the ruling did not establish a specific liability in this matter, BPA recorded a liability in this amount in fiscal year 2012.

On April 2, 2013, the Court of Federal Claims issued a Declaratory Judgment in favor of the California parties in response to motions by these parties requesting declaratory relief for certain transactions.

Thereafter, a new judge for the Court of Federal Claims was assigned to the claims, and on Dec. 20, 2013, she vacated the May 2012 opinion. After hearings conducted in June 2014 and January 2015, at the judge's request, BPA filed a motion to dismiss the claims. On March 12, 2015, the judge issued a decision granting BPA's motion to dismiss and holding that the California parties lacked standing to sue because they had no contractual privity with BPA. The judge also found that even if the California parties had standing, the breach of contract claims should nevertheless be dismissed because the factual predicate for a breach of contract claim against Bonneville did not exist because FERC had not retroactively revised the rates applicable to the BPA transactions, as alleged by the California parties. Thereafter the California parties filed appeals of the order in the United States Court of Appeals for the Federal Circuit. On Oct. 3, 2016, the Federal Circuit Court of Appeals affirmed the dismissal by the Court of Federal Claims of all breach of contract claims against Bonneville. On Nov. 17, 2016, the California parties filed for reconsideration and rehearing en banc. On Feb. 13, 2017, the Federal Circuit Court of Appeals denied the motions. On July 6, 2017, the California parties filed a petition for a writ of certiorari with the United States Supreme Court. BPA filed its response to the petition on Sept. 11, 2017. The California Parties filed their reply on Sept. 26, 2017. (See Note 1, Summary of Significant Accounting Policies, Subsequent Events section.)

In a separate proceeding as part of FERC's California refund docket, an administrative law judge appointed by the FERC Commissioners conducted a hearing in 2012 to make certain findings related to certain classes of transactions at issue in the California parties' breach of contract litigation in the Court of Federal Claims. The FERC proceeding had potential impacts on the scope of potential damages in the breach of contract case. On Feb. 15, 2013, the FERC administrative law judge issued findings to the effect that the prices involved in certain transactions were unjust and unreasonable and subject to refund and recommended that BPA pay $59.6 million, plus interest. On Nov. 10, 2014, FERC dismissed BPA from the FERC California refund proceeding and did not affirm the administrative law judge's findings and recommendations. The California parties did not appeal the dismissal of BPA from the proceeding.

In fiscal year 2015, BPA removed its liability for the California parties' refund claims as a result of the judge's dismissal in 2015 of all the claims in the Court of Federal Claims on the basis that BPA's management has determined that the probability of financial loss is remote.

Rates

BPA's rates are frequently the subject of litigation. Most of the litigation involves claims that BPA's rates are inconsistent with statutory directives, are not supported by substantial evidence in the record, or are arbitrary and capricious. It is the opinion of BPA's general counsel that if any rate were to be rejected, the remedy accorded would be a remand to BPA to establish a new rate. BPA's flexibility in establishing rates could be restricted by the rejection of a BPA rate, depending on the grounds for the rejection. BPA is unable to predict, however, what new rate it would establish if a rate were rejected. If BPA were to establish a rate that was lower than the rejected rate, a petitioner may be entitled to a refund in the amount overpaid; however, BPA is

required by law to set rates to meet all of its costs. Thus, it is the opinion of BPA's general counsel that BPA may be required to increase its rates to seek to recover the amount of any such refunds, if needed.

OTHER

The FCRPS may be affected by various other legal claims, actions and complaints, including litigation under the Endangered Species Act, which may include BPA as a named party. Certain of these cases may involve material amounts. Management is unable to predict whether the FCRPS will avoid adverse outcomes in these legal matters; however, management believes that disposition of pending matters will not have a materially adverse effect on the FCRPS financial position or results of operations for fiscal year 2017.

Judgments and settlements are included in FCRPS costs and recovered through rates. Except with respect to the SCE matter described above, no liability has been recorded for the above legal matters. (See Note 10, Deferred Credits and Other, for discussion of amounts accrued for outstanding legal claims and settlements.)

FEDERAL REPAYMENT

Revenue requirement study

The submission of BPA's annual report fulfills the reporting requirements of the Grand Coulee Dam – Third Powerplant Act, Public Law 89-448. The revenue requirement study demonstrates repayment of federal investment. It reflects revenues and costs consistent with BPA's 2018 Final Wholesale Power and Transmission Rate Proposals of July 26, 2017, for fiscal years 2018 and 2019. (See BP-18-E-BPA-02 for Power and BP-18-E-BPA-09 for Transmission.) The final proposals filed with FERC contain the official amortization schedule for the rate periods. FERC granted interim approval to the Power Rates Schedules on Sept. 26, 2017, and the Transmission, Ancillary and Control Area Service Rate Schedules on Sept. 25, 2017.

Repayment demonstration

BPA is required by Public Law 89-448 to demonstrate that reimbursable costs of the FCRPS will be returned to the U.S. Treasury from BPA net revenues within the period prescribed by law. BPA is required to make a similar demonstration for the costs of irrigation projects that are beyond the ability of irrigation water users to repay. These requirements are met by conducting power repayment studies including schedules of payments at the proposed rates to demonstrate repayment of principal within the allowable repayment period.

Since 1985, BPA has prepared separate repayment demonstrations for generation and transmission in accordance with an order issued by FERC on Jan. 27, 1984 (26 FERC 61,096).

Repayment policy

BPA's repayment policy is reflected in its generation and transmission revenue requirements and respective rate levels. This policy requires that FCRPS revenues be sufficient to:

1. Pay the cost of operating and maintaining the power system.
2. Pay the cost of obtaining power through purchase and exchange agreements (nonfederal projects) and transmission services that BPA is obtaining under capitalized lease-purchase agreements.
3. Pay interest on and repay outstanding U.S. Treasury borrowings to finance transmission system construction, conservation, environmental, direct-funded USACE and Reclamation improvements, and fish and wildlife projects.
4. Pay interest on the unrepaid investment in facilities financed with appropriated funds. (Federal hydroelectric projects all were financed with appropriated funds, as were BPA transmission facilities constructed before 1978.)
5. Pay, with interest, any outstanding deferral of interest expense.
6. Repay the power investment in each federal hydroelectric project with interest within 50 years after the project is placed in service (except for the Chandler project, which has a legislated repayment period of 66 years).

7. Repay each increment of the investment in the BPA transmission system financed with appropriated funds with interest within the average service life of the associated transmission plant (48 years).
8. Repay the appropriated investment in each replacement at a federal hydroelectric project within its service life.
9. Repay irrigation investment at federal reclamation projects assigned for payment from FCRPS revenues, after all other elements in the priority of payments are paid and within the same period established for irrigation water users to repay their share of construction costs. These periods range from 40 to 66 years, with 50 years being applicable to most of the irrigation payment assistance.

Investments bearing the highest interest rate will be repaid first, to the extent possible, while still completing repayment of each increment of investment within its prescribed repayment period.

Repayment obligation

BPA's rates must be designed to collect sufficient revenues to return separately the power and transmission costs of each FCRPS investment and each irrigation assistance obligation within the time prescribed by law.

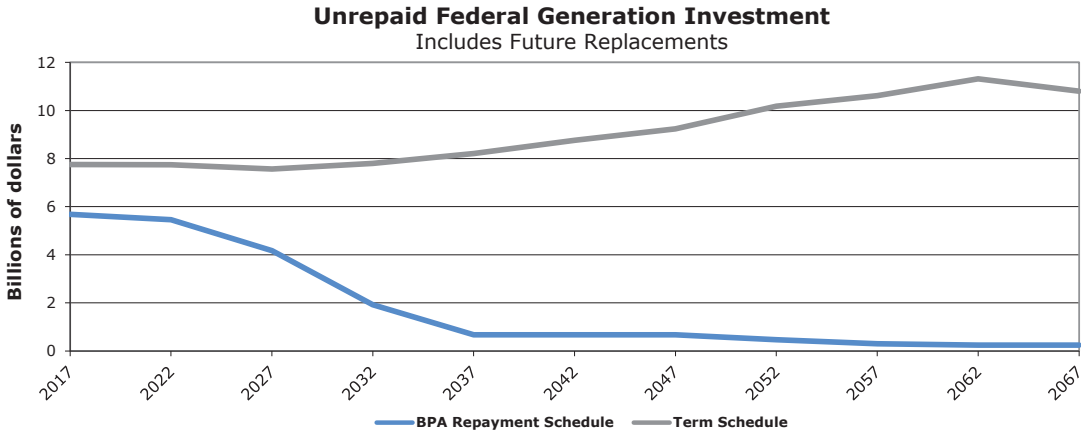
If existing rates are not likely to meet this requirement BPA must reduce costs, adjust its rates, or both. However, irrigation assistance payments from projects authorized subsequent to Public Law 89-448 are to be scheduled to not require an increase in the BPA power rate level. Comparing BPA's repayment schedule for the unrepaid capital appropriations and bonds with a "term schedule" demonstrates that the federal investment will be repaid within the time allowed. A term schedule represents a repayment schedule whereby each capitalized appropriation or bond would be repaid in the year it is due.

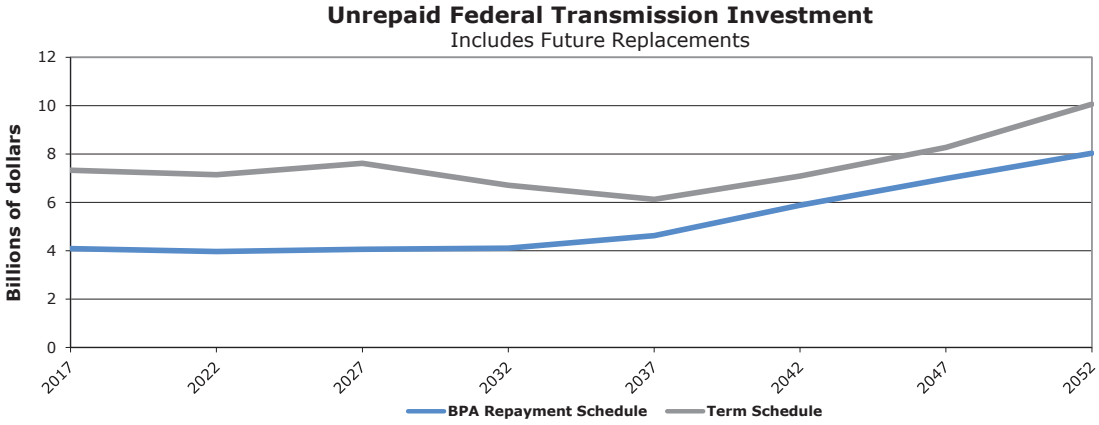
Reporting requirements of Public Law 89-448 are met so long as the unrepaid FCRPS investment and irrigation assistance resulting from BPA's repayment schedule are less than or equal to the allowable unrepaid investment in each year. While the comparison is illustrated by the following graphs representing total FCRPS generation and total FCRPS transmission investment, the actual comparison is performed on an investment-by-investment basis.

Repayment of FCRPS investment

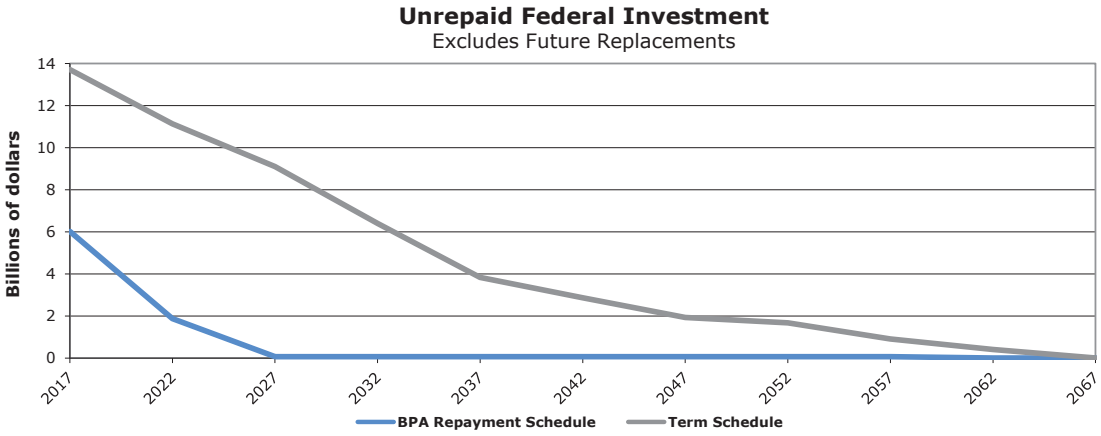
The graphs for Unrepaid Federal Generation and Transmission Investment illustrate that unrepaid investment resulting from BPA's generation and transmission repayment schedules is less than the allowable unrepaid investment. This demonstrates that BPA's rates are sufficient to recover all FCRPS investment costs on or before their due dates.

The term schedule lines in the graphs show how much of the obligation can remain unpaid in accordance with the repayment periods for the generation and transmission components of the FCRPS. The BPA repayment schedule lines show how much of the obligation remains to be repaid according to BPA's repayment schedules. In each year, BPA's repayment schedule is ahead of the term schedule. This occurs because BPA plans repayment both to comply with obligation due dates and to minimize costs over the entire repayment study horizon (35 years for transmission, 50 years for generation). Repaying highest interest-bearing investments first, to the extent possible, minimizes costs. Consequently, some investments are repaid before their due dates while assuring that all other obligations are repaid by their due dates. These graphs include forecasts of system replacements during the repayment study horizon that are necessary to maintain the existing FCRPS generation and transmission facilities.





The Unrepaid Federal Investment graph displays the total planned unrepaid FCRPS obligations compared to allowable total unrepaid FCRPS investment, omitting future system replacements. This demonstrates that each FCRPS investment through 2017 is scheduled to be returned to the U.S. Treasury within its repayment period and ahead of due dates.



If, in any given year, revenues are not sufficient to cover all cash needs including interest, any deficiency becomes an unpaid annual expense. Interest is accrued on the unpaid annual expense until paid. This must be paid from subsequent years' revenues before any repayment of federal appropriations can be made.

LEADERSHIP

Janet Herrin, Elliot Mainzer, Dan James, John Hairston.

ENTERPRISE BOARD MEMBERS AS OF SEPT. 30, 2017

Elliot E. Mainzer
Administrator and Chief Executive Officer

Daniel M. James
Deputy Administrator

Janet C. Herrin
Chief Operating Officer

John L. Hairston
Chief Administrative Officer

Joel D. Cook
Senior Vice President for Power Services

Richard L. Shaheen
Senior Vice President for Transmission Services, P.E.

Benjamin Berry
Executive Vice President of Information Technology and Chief Information Officer

Mary Hawken
Executive Vice President and Chief Financial Officer (Acting)

Mary K. Jensen
Executive Vice President and General Counsel

Thomas A. McDonald
Executive Vice President of Compliance, Audit and Risk Management

F Lorraine (Lorri) Bodi
Vice President of Environment, Fish and Wildlife

Nita Zimmerman
Deputy Executive Vice President
Business Transformation

Peter T. Cogswell
Director of Intergovernmental Affairs

Scott Simms
Director of Communications

Tracey Stancliff
Executive Office Enterprise Program Manager

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