DOE/CF-0133
Volume 6

Department of Energy

FY 2018 Congressional Budget Request

Power Marketing Administrations

Southeastern Power Administration
Southwestern Power Administration
Western Area Power Administration
Bonneville Power Administration

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($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016 $	FY 2018 vs FY 2016 %
Department of Energy Budget by Appropriation					
Energy and Water Development, and Related Agencies					
Energy Programs					
Energy Efficiency and Renewable Energy	2,069,194	2,069,059	636,149	-1,433,045	-69.3%
Electricity Delivery and Energy Reliability	206,000	205,608	120,000	-86,000	-41.7%
Nuclear Energy	986,161	984,286	703,000	-283,161	-28.7%
Fossil Energy Programs					
Fossil Energy Research and Development	632,000	630,799	280,000	-352,000	-55.7%
Naval Petroleum and Oil Shale Reserves	17,500	17,467	4,900	-12,600	-72.0%
Strategic Petroleum Reserve	212,000	211,597	180,000	-32,000	-15.1%
Strategic Petroleum Account	0	0	8,400	+8,400	N/A
Northeast Home Heating Oil Reserve	7,600	7,586	6,500	-1,100	-14.5%
Total, Fossil Energy Programs	**869,100**	**867,449**	**479,800**	**-389,300**	**-44.8%**
Uranium Enrichment Decontamination and Decommissioning (UED&D) Fund	673,749	767,014	752,749	+79,000	+11.7%
Energy Information Administration	122,000	121,768	118,000	-4,000	-3.3%
Non-Defense Environmental Cleanup	255,000	254,515	218,400	-36,600	-14.4%
Science	5,347,000	5,336,835	4,472,516	-874,484	-16.4%
Advanced Research Projects Agency - Energy	291,000	290,446	20,000	-271,000	-93.1%
Nuclear Waste Disposal	0	0	90,000	+90,000	N/A
Departmental Administration	130,971	130,722	145,652	+14,681	+11.2%
Office of the Inspector General	46,424	46,336	49,000	+2,576	+5.5%
Title 17 - Innovative Technology Loan Guarantee Program	17,000	14,920	0	-17,000	-100.0%
Advanced Technology Vehicles Manufacturing Loan Program	6,000	5,989	0	-6,000	-100.0%
Total, Energy Programs	**11,019,599**	**11,094,947**	**7,805,266**	**-3,214,333**	**-29.2%**
Atomic Energy Defense Activities					
National Nuclear Security Administration					
Weapons Activities	8,846,948	8,830,130	10,239,344	+1,392,396	+15.7%
Defense Nuclear Nonproliferation	1,940,302	1,936,614	1,793,310	-146,992	-7.6%
Naval Reactors	1,375,496	1,372,881	1,479,751	+104,255	+7.6%
Federal Salaries and Expenses	363,766	363,937	418,595	+54,829	+15.1%
Total, National Nuclear Security Administration	**12,526,512**	**12,503,562**	**13,931,000**	**+1,404,488**	**+11.2%**
Environmental and Other Defense Activities					
Defense Environmental Cleanup	5,289,742	5,279,686	5,537,186	+247,444	+4.7%
Other Defense Activities	776,425	774,949	815,512	+39,087	+5.0%
Defense Nuclear Waste Disposal	0	0	30,000	+30,000	N/A
Total, Environmental and Other Defense Activities	**6,066,167**	**6,054,635**	**6,382,698**	**+316,531**	**+5.2%**
Total, Atomic Energy Defense Activities	**18,592,679**	**18,558,197**	**20,313,698**	**+1,721,019**	**+9.3%**
Power Marketing Administrations					
Southeastern Power Administration	0	0	0	0	N/A
Southwestern Power Administration	11,400	11,378	11,400	0	N/A
Western Area Power Administration	93,372	93,194	93,372	0	N/A
Falcon and Amistad Operating and Maintenance Fund	228	228	228	0	N/A
Colorado River Basins Power Marketing Fund	-23,000	-23,000	-23,000	0	N/A
Total, Power Marketing Administrations	**82,000**	**81,800**	**82,000**	**0**	**N/A**
Federal Energy Regulatory Commission (FERC)	0	0	0	0	N/A
Subtotal, Energy and Water Development and Related Agencies	**29,694,278**	**29,734,944**	**28,200,964**	**-1,493,314**	**-5.0%**
Excess Fees and Recoveries, FERC	-23,587	-15,882	-9,000	+14,587	+61.8%
Title XVII Loan Guarantee Program Section 1703 Negative Credit Subsidy Receipt	-68,000	-67,871	-35,000	+33,000	+48.5%
Sale of Northeast Gas Reserve	0	0	-69,000	-69,000	N/A
Use of Advanced Research Projects Agency - Energy Balances	0	0	-46,367	-46,367	N/A
Total, Funding by Appropriation	**29,602,691**	**29,651,191**	**28,041,597**	**-1,561,094**	**-5.3%**

*The Consolidated Appropriations Act was not available when the Department of Energy developed the FY 2018 Congressional Budget. Therefore, the FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year.

Southeastern Power Administration

Southeastern Power Administration

Southeastern Power Administration
Proposed Appropriation Language

For necessary expenses of operation and maintenance of power transmission facilities and of marketing electric power and energy, including transmission wheeling and ancillary services, pursuant to section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s), as applied to the Southeastern Power Administration (Southeastern or SEPA) marketing area, $6,379,000, including official reception and representation expenses in an amount not to exceed $1,500, to remain available until expended: Provided, That notwithstanding 31 U.S.C. 3302 and section 5 of the Flood Control Act of 1944, up to $6,379,000, collected by the Southeastern Power Administration from the sale of power and related services shall be credited to this account as discretionary offsetting collections, to remain available until expended for the sole purpose of funding the annual expenses of the Southeastern Power Administration: Provided further, That the sum herein appropriated for annual expenses shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year 2018 appropriation estimated at not more than $0: Provided further, That, notwithstanding 31 U.S.C. 3302, up to $59,985,000 collected by the Southeastern Power Administration pursuant to the Flood Control Act of 1944 to recover purchase power and wheeling expenses shall be credited to this account as offsetting collections, to remain available until expended for the sole purpose of making purchase power and wheeling expenditures: Provided further, That for purposes of this appropriation, annual expenses means expenditures that are generally recovered in the same year that they are incurred (excluding purchase power and wheeling expenses).

Note.—A full-year 2017 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Further Continuing Appropriations Act, 2017 (P.L. 114–254). The amounts included for 2017 reflect the annualized level provided by the continuing resolution.

Explanation of Changes

No changes.

Public Law Authorizations:

- Public Law 78-534, Flood Control Act of 1944
- Public Law 95-91, DOE Organization Act of 1977, Section 302
- Public Law 101-1-1, Title III, Continuing Fund (amended 1989)
- Public Law 102-486, Energy Policy Act of 1992

Southeastern Power Administration
($K)

FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request
90,500	90,328	81,434
-90,500	-90,328	-81,434
0	0	0

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Overview

Southeastern Power Administration (Southeastern or SEPA) exists to carry out the functions assigned by the Flood Control Act of 1944: to market the electric power and energy generated by the Federal reservoir projects to public bodies and cooperatives in the southeastern United States in a professional, innovative, customer-oriented manner, while continuing to meet the challenges of an ever-changing electric utility environment through continuous improvement. Southeastern provides 485 public power customers with 3,392 megawatts of hydroelectric capacity from 22 Federal multipurpose projects, operated by the U.S. Army Corps of Engineers (Corps) at cost based rates.

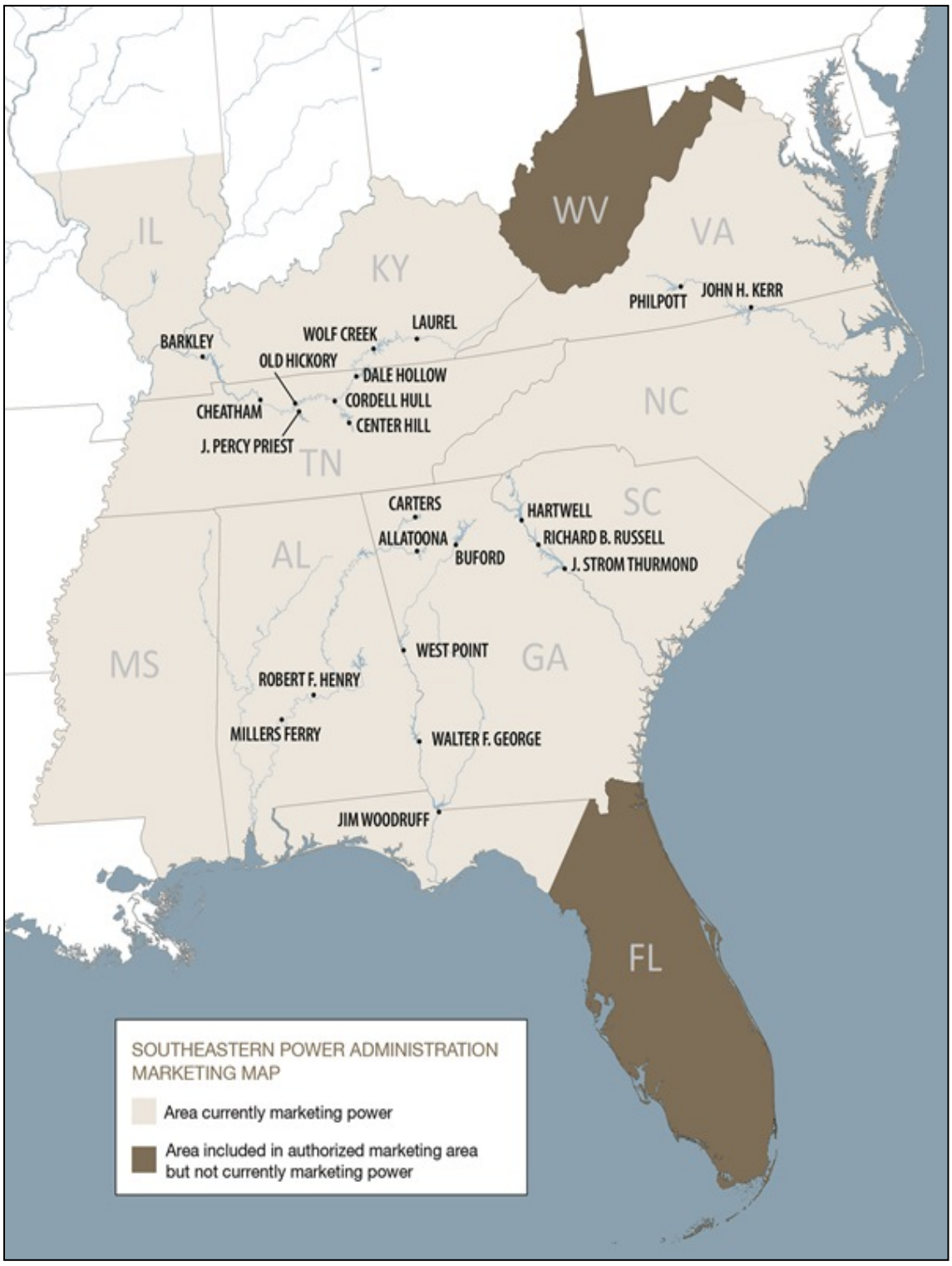
Annually, Southeastern produces an average of 7,613 gigawatt-hours of clean renewable hydroelectric energy. Southeastern maintains and upgrades its energy infrastructure to ensure reliable and efficient delivery of Federal power. Southeastern promotes energy efficiency, renewable energy, and sound management of the dispatch and distribution of Federal hydroelectric power resources in the southeastern United States while also meeting national utility performance standards and balancing the diverse interests of other water resource stakeholders. This budget submission enables Southeastern to promote the effective management of hydroelectric resources.

Program Direction supports day-to-day agency operation and Purchase Power and Wheeling supports acquisition of replacement and pumping power along with contractually-required transmission services. Consistent with the authority provided in the FY 2010 Energy and Water Appropriations, the FY 2018 Budget provides funding for annual expenses (Program Direction) through discretionary offsetting collections derived from power receipts collected to recover those expenses.

Highlights and Major Changes in the FY 2018 Budget Request

Southeastern's request for FY 2018 decreases Purchase Power and Wheeling (-$8.545 million), reflecting changes in transmission rates and rainfall estimates, and decreases Program Direction (-$0.521 million) based on more accurate cost estimates.

Service Area Map



Southeastern Power Administration
Funding by Congressional Control
($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Southeastern Power Administration				
Purchase Power and Wheeling (PPW)	83,600	83,441	75,055	-8,545
Program Direction (PD)	6,900	6,887	6,379	-521
Subtotal, Southeastern Power Administration	**90,500**	**90,328**	**81,434**	-9,066
Offsetting Collections, PPW	-66,500	-66,374	-59,985	+6,515
Alternative Financing, PPW	-17,100	-17,067	-15,070	+2,030
Offsetting Collections, Annual Expenses, PD	-6,900	-6,887	-6,379	+521
Use of Prior Year Balances, PD	0	0	0	0
Total, Southeastern Power Administration	**0**	**0**	**0**	**0**
Federal FTEs	**44**	**44**	**44**	**0**

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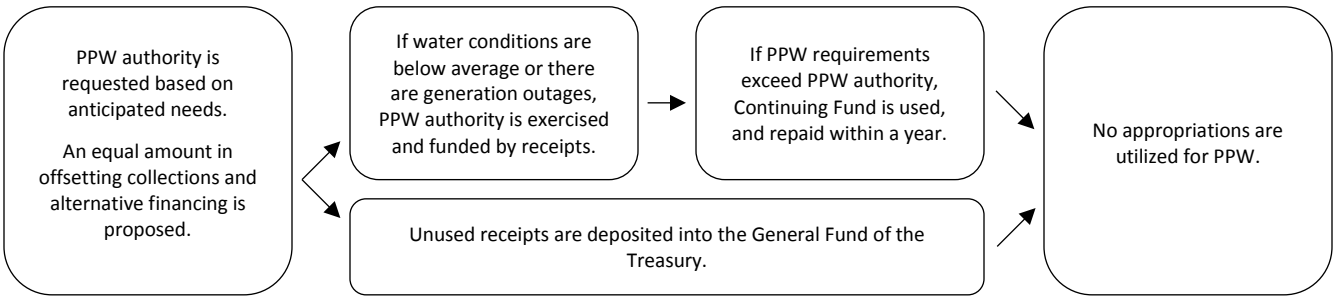
Purchase Power and Wheeling

Overview

The mission of Purchase Power and Wheeling (PPW) is to provide funding for acquisition of transmission services, ancillary services for the system, pumping energy for the Richard B. Russell and Carters Pumped Storage units, and support of the Jim Woodruff Project. Southeastern must purchase power on the open market when its Federal generating assets cannot provide enough power to fulfill its contracts with its customers.

Additionally, because Southeastern does not own or operate any transmission infrastructure, transmission expenses are based on contracts with area transmission providers to deliver specified amounts of Federal power from the hydropower projects to Federal power customers. Southeastern has access to a continuing fund for emergency expenses necessary to ensure continuity of service. Southeastern has implemented a plan to repay any Purchase Power and Wheeling expenditures made through the Continuing Fund within one year.

The FY 2018 request uses customer receipts and net billing to pay for purchase power and wheeling expenses at no cost to the Federal Treasury. Some customers, acting independently or in partnerships, acquire replacement power and transmission services directly from suppliers. Southeastern will continue to assist its customers by arranging funding for these activities through alternative financing instruments, as needed.



Highlights of the FY 2018 Budget Request

The PPW subprogram supports Southeastern's mission to market and deliver reliable, cost-based hydroelectric power and related services. PPW enables Southeastern to wheel Federal power to preference customers, purchase replacement power, and acquire pumping energy to maximize the efficiency and benefits of Southeastern's hydropower resources. Power and services are marketed at rates designed to provide recovery of expenses and Federal investment, as established by law.

Purchase Power & Wheeling
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Purchase Power				
Replacement Power	11,000	10,979	3,797	-7,203
Russell Project pumping power	14,000	13,973	13,666	-334
Carters Project pumping power	13,000	12,975	12,974	-26
Jim Woodruff Project support	3,600	3,593	2,600	-1,000
Total, Purchase Power	**41,600**	**41,520**	**33,037**	**-8,563**
Wheeling				
Wheeling service charges	37,236	37,165	37,254	+18
Ancillary Services	4,764	4,755	4,764	0
Total, Wheeling	**42,000**	**41,920**	**42,018**	**+18**
Total, Purchase Power and Wheeling	**83,600**	**83,440**	**75,055**	**-8,545**
Alternative Financing				
Net Billing	-17,100	-17,067	-15,070	2,030
Subtotal, Purchase Power and Wheeling	66,500	66,373	59,985	-6,515
Offsetting Collections Realized	-66,500	-66,373	-59,985	+6,515
Total, Purchase Power and Wheeling Budget Authority	**0**	**0**	**0**	**0**

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Southeastern Power Administration
Purchase Power and Wheeling
Explanation of Major Changes
($K)

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Purchase Power and Wheeling $83,600,000	**$75,055,000**	**-$8,545,000**
Purchase Power $41,600,000	**$33,037,000**	**-$8,563,000**
• On-Peak Replacement Power, purchased to meet contract minimum service in drought conditions. • Off-Peak Pumping Power, purchased to supplement stream flow energy demand. • Jim Woodruff System Generating Support required for high river flows at low head plant.	• Continuing activities from prior year.	• The decrease in Purchase Power is due to expectation of improved rainfall and water condition factors used in calculating purchase power estimates.
Wheeling $42,000,000	**$42,018,000**	**+$18,000**
• Transmission expenses based on contracts with area transmission providers to deliver specified amounts of Federal power from the hydropower projects to Federal power customers.	• Continued funding supports ongoing activities.	• The increase in wheeling cost is due to a slight increase in transmission rates.

Program Direction

Overview

Program Direction provides the Federal staffing resources and associated costs required to provide overall direction and execution of the Southeastern Power Administration. Provision is made for negotiation and administration of transmission and power contracts, collections of revenues, accounting and budget activities, development of wholesale power rates, amortization of the Federal power investment, energy efficiency and competitiveness programs, investigation and planning of proposed water resources projects, scheduling and dispatch of power generation, scheduling storage and release of water, administration of contractual operation requirements, and determination of methods of operating generating plants individually and in coordination with others to obtain maximum allowable utilization of resources.

Highlights of the FY 2018 Budget Request

The FY 2018 Budget Request provides for the continuation of Southeastern's activities related to Program Direction at the level necessary to meet mission requirements.

Program Direction
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Program Direction Summary				
Southeastern Power Administration				
Salaries and Benefits	4,750	4,741	4,800	+50
Travel	400	399	100	-300
Support Services	100	100	40	-60
Other Related Expenses	1,650	1,647	1,439	-211
Total, Program Direction	**6,900**	**6,887**	**6,379**	**-521**
Federal FTEs	**44**	**44**	**44**	**0**
Support Services				
Management and Professional Support Services	100	100	40	-60
Total, Support Services	**100**	**100**	**40**	**-60**
Other Related Expenses				
Training	15	15	10	-5
Communications, Utilities, Misc.	189	189	193	4
Equipment	190	190	43	-147
Maintenance Agreements	77	77	96	19
Rent to GSA	337	336	345	8
Rent to Others	9	9	0	-9
Tuition	15	15	5	-10
Contract Services	414	413	399	-15
Audit of Financial Statements	249	249	240	-9
Supplies and Materials	116	116	68	-48
Working Capital Fund	36	36	37	1
Printing and Reproduction	3	3	3	0
Total, Other Related Expenses	**1,650**	**1,648**	**1,439**	**-211**

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Program Direction

Activities, Milestones, and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Program Direction $6,900,000	**$6,379,000**	**-$521,000**
Salaries and Benefits $4,750,000	**$4,800,000**	**+$50,000**
• The funding supports Federal salaries and benefits for 44 FTEs who market Federal hydropower, promote energy efficiency and renewable energy, administrative support, and workloads in cyber-security and operational reliability. These estimates are derived from the current year budgeted salaries, plus cost-of-living adjustments, promotions, within-grade increases, overtime, DOE-cascading performance awards, and retirement payouts for unused leave.	• Continue funding support for Federal salaries and benefits for 44 FTEs.	• Slight increase reflects a more conservative calculation of Salaries and Benefits which is supported by an actual five year expenditure average and the Administration's proposed cost-of-living adjustment.
Travel $400,000	**$100,000**	**-$300,000**
• Funding supports transportation and per diem expenses incurred for preference customer meetings, relocation expenses for new FTEs, contract negotiations, rate forums, Congressional hearings, site visits, and operations meetings with industry organizations.	• Continued funding supports ongoing activities.	• Continue greater use of conference calls, webinar sessions, internet training, and video conferencing.
Support Services $100,000	**$40,000**	**-$60,000**
• Funding supports preference customers' efforts in support of the Energy Policy Act of 2005.	• Continue funding for co-sponsored training support for municipal and cooperative utilities.	• Decrease reflects reduced customer interest in program funding.
Other Related Expenses $1,650,000	**$1,439,000**	**-$211,000**
• Funding provides administrative support for the office, rent, communications, maintenance, contract services, supplies, materials, and equipment and support for cyber and physical security, training expenses for power operator certification, support for installation of electronic hardware and software for the operations center and provides maintenance to integrate real-time data from the control area and provides the data to other transmission operators and NERC.	• Continue funding support for Southeastern Power Administration's headquarters office.	• Decrease reflects and reductions in contract services.

Southeastern Power Administration
Performance Measures

In accordance with the GPRA Modernization Act of 2010, the Department sets targets for, and tracks progress toward, achieving performance goals for each program.

	FY 2016	FY 2017	FY 2018
Performance Goal (Measure)	**SEPA Repayment of Federal Power Investment - Ensure timely repayment of Federal investment in accordance with DOE Order RA 6120.2 by maintaining unpaid investment (UI) equal to or less than the allowable unpaid investment (AUI) in accordance with DOE Order RA 6120.2.**		
Target	≤ 2,143 million dollars AUI	≤ 2,212 million dollars AUI	≤ 2,138 million dollars AUI
Result	Met - 1,626	TBD	TBD
Endpoint Target	Meet legislated cost recovery requirements for timely repayment of Federal investment in maintaining financial integrity of projects/program.		
Performance Goal (Measure)	**SEPA System Reliability Performance - NERC - Meet NERC Control Performance Standards (CPS) of CPS1>100 and CPS2>90. CPS1: minute by minute measures a generating system's ability to match supply to changing demand requirements and support desired system frequency (about 60 cycles per second); CPS2: measures systems' ability to limit the magnitude of generation and demand imbalances**		
Target	> 100 CPS1 rating with CPS>90	> 100 CPS1 rating with CPS2>90	> 100 CPS1 rating with CPS>90
Result	Met - 197	TBD	TBD
Endpoint Target	Ensure the integrity of the Nation's integrated grid by operating in compliance with National Energy Reliability Standards.		

Additional Tables

Revenue and Receipts ($K)

	FY 2016 Actuals	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
Gross Revenues	317,705	339,594	322,424	323,607	327,464	329,808	331,290
Net Billing (Credited as an Offsetting Receipt)	-16,830	-18,169	-15,071	-15,229	-15,395	-15,569	-15,752
Total Cash Receipts	300,875	321,425	307,353	308,378	312,069	314,239	315,538
Use of Offsetting Collections to fund PPW	-66,500	-60,760	-59,985	-61,008	-62,187	-63,425	-64,723
Use of Offsetting Collections to fund Annual Expenses	-6,900	-6,000	-6,379	-6,416	-6,599	-6,637	-6,771
Total Receipts, net use of Offsetting Collections	227,475	254,665	240,989	240,954	243,283	244,177	244,044
Cumberland Rehabilitation	-44,907	-40,000	-40,000	-40,000	-40,000	-40,000	-40,000
GA-AL-SC Rehabilitation	-14,663	-20,000	-20,000	-20,000	-20,000	-20,000	-20,000
Kerr-Philpott Rehabilitation	-2,300	-5,000	-5,000	-5,000	-5,000	-5,000	-5,000
Jim Woodruff	-0	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000
Accts Rec Yearly Difference	-2,917	0	0	0	0	0	0
Total Proprietary Receipts	**162,688**	**188,665**	**174,989**	**174,954**	**177,283**	**178,177**	**178,044**
Percent of Sales to Preference Customers	99%	99%	99%	99%	99%	99%	99%
Energy Sales and Power Marketed (megawatt-hours)	7,886,000	7,886,000	7,886,000	7,886,000	7,886,000	7,886,000	7,886,000

Alternative Financing

2016	Transmission	Purchase Power	Offsetting Collections	Net Billing	Appropriated Funds
Jim Woodruff System	338	2,709	-2,740	-307	0
Kerr-Philpott System	6,681	3,819	-10,500	0	0
GA-AL-SC System	39,667	16,594	-52,753	-3,508	0
Cumberland System	13,522	0	-507	-13,015	0
	60,208	23,122	-66,500	-16,830	0

2017	Transmission	Purchase Power	Offsetting Collections	Net Billing	Appropriated Funds
Jim Woodruff System	230	3,600	-3,130	-700	0
Kerr-Philpott System	4,378	0	-4,378	0	0
GA-AL-SC System	26,975	31,293	-52,917	-5,351	0
Cumberland System	12,453	0	-335	-12,118	0
	44,036	34,893	-60,760	-18,169	0

2018	Transmission	Purchase Power	Offsetting Collections	Net Billing	Appropriated Funds
Jim Woodruff System	230	2,600	-2,130	-700	0
Kerr-Philpott System	5,657	0	-5,657	0	0
GA-AL-SC System	24,582	30,437	-51,860	-3,159	0
Cumberland System	11,550	0	-338	-11,212	0
	42,019	33,037	-59,985	-15,071	0

Power Marketed, Wheeled, or Exchanged by Project

Project	State	Plants	Installed Capacity (KW)	FY 2016 Estimated Power (GWH)	FY 2017 Estimated Power (GWH)	FY 2018 Estimated Power (GWH)
Kerr-Philpott System				293	293	293
John H. Kerr	VA-NC	1	291,000			
Philpott	VA	1	15,000			
Georgia-Alabama-South Carolina System				2,508	2,508	2,508
Allatoona	GA	1	82,000			
Buford	GA	1	127,000			
Carters	GA	1	600,000			
J. Strom Thurmond	GA-SC	1	364,000			
Walter F. George	GA-AL	1	160,000			
Hartwell	GA-SC	1	424,000			
R. F. Henry	AL	1	82,000			
Millers Ferry	AL	1	90,000			
West Point	GA-AL	1	87,000			
Richard B. Russell	GA-SC	1	656,000			
Jim Woodruff Project	FL-GA	1	43,500	148	148	148
Cumberland System				2,481	2,481	2,481
Barkley	KY	1	130,000			
Center Hill	TN	1	135,000			
Cheatham	TN	1	36,000			
Cordell Hull	TN	1	99,900			
Dale Hollow	TN	1	54,000			
Old Hickory	TN	1	103,752			
J. Percy Priest	TN	1	28,000			
Wolf Creek	TN	1	270,000			
Laurel	TN	1	61,000			
Total Power Marketed		**22**	**3,939,152**	**5,430**	**5,430**	**5,430**

System Statistics

	FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
Generating Capacity:			
Nameplate Capacity (KW)	3,939,152	3,939,152	3,939,152
Peak Capacity (KW) [a]	4,330,000	4,330,000	4,330,000
Generating Stations			
Generating Projects (Number)	22	22	22
Available Energy			
Energy from Stream-flow (MWH)	4,685,000	4,685,000	4,685,000
Energy generated from Pumping (MWH)	745,100	745,100	745,100
Energy Purchased for Replacement (MWH)	157,640	157,640	157,640
Total, Energy available for marketing [b] (MWH)	**5,587,740**	**5,587,740**	**5,587,740**

[a] Southeastern markets capacity based on nameplate plus an overload factor. NERC requires that Southeastern keep a portion of the capacity in reserve for emergency purposes and to cover losses.

[b] Gross amount. Transmission losses are deducted from this amount to estimate the amount of energy marketed.

Department Of Energy

FY 2018 Congressional Budget

Funding By Appropriation By Site

($K)

Southeastern Power Admin. - Operation & Maint.	FY 2016 Enacted	FY 2017 Annualized CR	FY 2018 Request
Southeastern Power Administration			
Purchase Power and Wheeling			
Purchase Power and Wheeling	83,600	83,441	75,055
Program Direction			
Program Direction	6,900	6,887	6,379
Total, Southeastern Power Administration	**90,500**	**90,328**	**81,434**
Total, Southeastern Power Admin. - Operation & Maint.	**90,500**	**90,328**	**81,434**

Southwestern Power Administration

Southwestern Power Administration

Southwestern Power Administration
Proposed Appropriation Language

For necessary expenses of operation and maintenance of power transmission facilities and of marketing electric power and energy, for construction and acquisition of transmission lines, substations and appurtenant facilities, and for administrative expenses, including official reception and representation expenses in an amount not to exceed $1,500 in carrying out section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s), as applied to the Southwestern Power Administration, $30,288,000 to remain available until expended: Provided, That notwithstanding 31 U.S.C. 3302 and section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s), up to $18,888,000 collected by the Southwestern Power Administration from the sale of power and related services shall be credited to this account as discretionary offsetting collections, to remain available until expended, for the sole purpose of funding the annual expenses of the Southwestern Power Administration: Provided further, That the sum herein appropriated for annual expenses shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year 2018 appropriation estimated at not more than $11,400,000: Provided further, That, notwithstanding 31 U.S.C. 3302, up to $83,000,000 collected by the Southwestern Power Administration pursuant to the Flood Control Act of 1944 to recover purchase power and wheeling expenses shall be credited to this account as offsetting collections, to remain available until expended for the sole purpose of making purchase power and wheeling expenditures: Provided further, That for purposes of this appropriation, annual expenses means expenditures that are generally recovered in the same year that they are incurred (excluding purchase power and wheeling expenses).

Note.—A full-year 2017 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Further Continuing Appropriations Act, 2017 (P.L. 114–254). The amounts included for 2017 reflect the annualized level provided by the continuing resolution.

Explanation of Changes

No changes.

Public Law Authorizations

- P.L. 78-534, Section 5, Flood Control Act of 1944
- P.L. 95–91, Section 302, DOE Organization Act of 1977
- P.L. 100-71, Supplemental Appropriations Act, 1987
- P.L. 101–101, Title III, Continuing Fund (amended 1989)
- P.L. 102-486, Section 721, Energy Policy Act of 1992
- P.L. 108-447, Appropriations Act, FY 2005
- P.L. 111-85, Appropriations Act, FY 2010

Southwestern Power Administration
($K)

FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request
122,666	136,013	155,947
-111,266	-124,635	-144,547
11,400	11,378	11,400

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Overview

Southwestern Power Administration's (Southwestern) mission is to market and reliably deliver Federal hydroelectric power, with preference to public bodies and cooperatives. This is accomplished by maximizing the use of Federal assets to repay the Federal investment, participating with other water resource users in an effort to balance diverse interests with power needs within broad parameters set by the U.S. Army Corps of Engineers (Corps), and implementing public policy.

Southwestern markets and delivers power at wholesale rates to 78 municipal utilities, 21 rural electric cooperatives, and 3 government entities in the six states of Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas. In turn, these customers distribute that power to nearly nine million end users in the six-state area. To integrate the operation of the Federal hydroelectric generating plants and to transmit power from 24 multi-purpose Corps dams to customers, Southwestern operates and maintains 1,380 miles of high-voltage transmission lines, 26 substations/switchyards, and 51 microwave and very high frequency (VHF) radio sites. Southwestern is headquartered in Tulsa, Oklahoma. The agency operates a dispatch center in Springfield, Missouri as well as maintenance facilities in Jonesboro, Arkansas; Gore, Oklahoma; and Springfield, Missouri.

Southwestern participates in the Southwest Power Pool (SPP) Regional Transmission Organization (RTO), which demonstrates Southwestern's role as part of the Nation's interconnected generation and transmission system. In participation with the SPP RTO, Southwestern works on regional and interregional transmission policy initiatives in response to the evolution of the electric utility industry. Furthermore, with the integration of a large investor owned electric utility into the Midcontinent Independent System Operator (MISO) RTO, Southwestern coordinates its varied utility activities in conjunction with a broader group of stakeholders. Southwestern assures the efficient and reliable delivery of Federal hydropower, thus fulfilling energy security for the present as well as for future generations.

The President's budget request includes a proposal to authorize the Federal government to sell the transmission assets of Southwestern.

Southwestern's marketing services and delivery capability provide for recovery of all annual operating costs, including the Corps' hydropower related costs, and for repayment of taxpayer investment in all assets and facilities that support the Federal hydropower program. Hydroelectric power is a domestic energy source that helps reduce American dependence on foreign energy supplies and provides American jobs. Southwestern produces an average of 5,570 gigawatt-hours of hydroelectric energy annually.

Southwestern will use the following strategies to fulfill its mission:

- Market and deliver, at the lowest possible cost, all available Federal hydropower generated at the Corps multipurpose projects and work with the Corps, states, cooperatives, and municipalities to meet its statutory requirements while balancing the interests of other water users.
- Increase the reliability, efficiency, and use of Federal assets. This will be accomplished using appropriations; Federal power receipts; and alternative financing arrangements, which include net billing, bill crediting, and/or reimbursable authority (customer advances).[1]
- Conduct annual power repayment studies to ensure power rates are sufficient to repay all annual operating costs and the Federal investment with interest.
- Meet Southwestern's limited 1200-hour peaking power contractual obligations with necessary purchase power and wheeling using Federal power receipts; alternative financing arrangements, which include net billing, bill crediting, and/or reimbursable authority (customer advances); and the Continuing Fund as necessary in periods of below-average hydropower generation.
- Operate the transmission system efficiently to support the Nation's integrated power grid and engage in transmission policy initiatives within the RTOs in Southwestern's marketing area to respond effectively to the evolution of the electric utility industry.
- Meet requirements for Southwestern's compliance with the latest North American Electric Reliability Corporation (NERC) standards.
- Bolster Southwestern's cyber and physical security postures using best-available technologies and in cooperation with DOE and industry partners to protect the Federal transmission system and the Nation's power grid.

External factors that present potential adverse impacts to the overall achievement of the programs' strategic goals include weather, natural disasters, NERC reliability standards, industry deregulation, physical and cybersecurity, changing electric industry organizational structure, interconnections, open access, the uncertainty of sustainable funding resources, competing uses' demand for the limited water resource, and other unforeseen requirements. More specifically:

- The bulk of Southwestern's transmission infrastructure is approximately 60 years old and requires ongoing repair and maintenance while concurrently balancing changing and increasing demands for availability.
- Industry efforts to improve the reliability of the Nation's power grid are placing more requirements on Southwestern's workforce to implement mandatory reliability standards.
- Southwestern continues to emphasize security, both cyber and physical, as an agency priority. Ongoing assessments, realigning vacant positions, investments in the cyber and physical security programs, and infrastructure protection improvements enable Southwestern to continue to provide a safe and reliable product.
- Southwestern competes with the rest of the electric utility industry to attract and retain the quality workforce needed to provide a reliable power supply and transmission service as Southwestern's workforce retires.
- Southwestern is increasingly challenged by more complex transmission policy developments including intricate energy and capacity markets, transmission planning processes, and technical rate structures; the deployment of new technologies such as renewables and distributed generation; and heightening emissions and environmental restrictions.

Highlights of the FY 2018 Budget Request

Southwestern requests a net appropriation of $11.4 million for FY 2018. Southwestern's appropriation consists of four subprograms: Operations and Maintenance, Construction, Purchase Power and Wheeling, and Program Direction. Consistent with the authority provided in the 2010 Energy and Water Appropriations, the FY 2018 Budget provides funding for annual expenses (Operations and Maintenance and Program Direction) through discretionary offsetting collections derived from power receipts collected to recover those expenses. Priority is being placed on maintenance, physical and cybersecurity, compliance, and cost containment. The Budget also proposes to authorize the Federal government to sell the transmission assets of Southwestern, which operates and maintains 1,380 miles of high voltage transmission lines and 26 substations/switching stations.

[1] Southwestern's authority to use net billing and bill crediting is inherent in the authority provided by the Flood Control Act of 1944 and has been affirmed by the Comptroller General. Honorable Secretary of the Interior B-125127 (February 14, 1956).

Southwestern Power Administration
Funding by Congressional Control ($K)

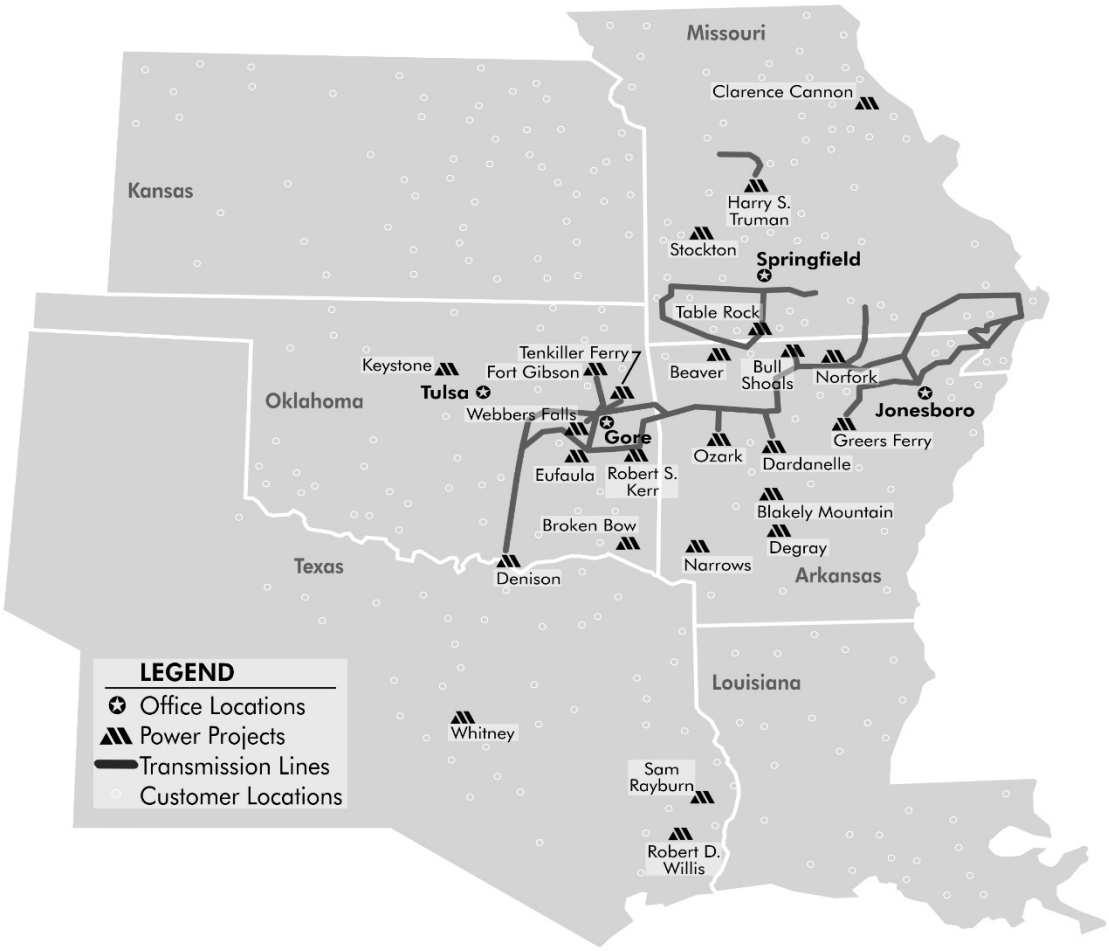
	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Operation and Maintenance				
Program Direction (PD)	31,932	31,871	31,335	-597
Operations and Maintenance (O&M)	19,279	19,258	16,680	-2,599
Construction (CN)	12,012	12,004	14,932	+2,920
Purchase Power and Wheeling (PPW)	73,000	72,880	93,000	+20,000
Subtotal, Operation and Maintenance	**136,223**	**136,013**	**155,947**	**+19,724**
Offsetting Collections, PD (annual expenses)	-29,938	-29,881	-16,035	+13,903
Use of Prior Year Balances, PD (annual expenses)			-12,000	-12,000
Offsetting Collections, O&M (annual expenses)	-6,023	-6,012	-2,853	+3,170
Use of Prior Year Balances, O&M (annual expenses)			-2,200	-2,200
Offsetting Collections, PPW	-63,000	-62,880	-83,000	-20,000
Alternative Financing, O&M	-8,288	-8,288	-9,042	-754
Alternative Financing, CN	-7,574	-7,574	-9,417	-1,843
Alternative Financing, PPW	-10,000	-10,000	-10,000	0
Total, Operation and Maintenance	**11,400**	**11,378**	**11,400**	**0**
Federal FTEs	**194**	**194**	**194**	**0**

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Operation and Maintenance
Explanation of Major Changes ($K)

	FY 2018 vs FY 2016
Operations and Maintenance: The decrease in the operations and maintenance subprogram reflects no additional funding required for the Supervisory Control and Data Acquisition/Energy Management System (SCADA/EMS) and a reduction in the number and type of special purchase vehicles being replaced.	**-2,599**
Construction: The increase in the construction subprogram reflects additional microwave radio and tower replacements, which was partially offset by a reduction in the projected cost of a new transformer.	**+2,920**
Purchase Power and Wheeling: The increase in the purchase power and wheeling subprogram reflects additional use of Southwestern's authority for offsetting collections resulting from anticipated purchases in drought and below average water conditions. This increase will forestall the need to activate the continuing fund.	**+20,000**
Program Direction: The decrease in the program direction subprogram incorporates projected retirements and the time lag in recruitment of hard to fill positions.	**-597**
Total, Southwestern, Operation and Maintenance	**+19,724**

Service Area Map



Southwestern Power Administration
Operations and Maintenance

Description

The activities of the Operations and Maintenance (O&M) subprogram are critical components in maintaining the reliability of the Federal power system, which is part of the Nation's interconnected generation and transmission system. By marketing and delivering hydroelectric energy, Southwestern makes a meaningful contribution of clean, safe, reliable, affordable, and secure renewable hydroelectric energy to our Nation. The Energy Policy Act (EPACT), the National Energy Policy (NEP), and the Department of Energy (DOE) policies emphasize the need to improve generation facilities to ensure safety, security, and reliability of the Nation's energy infrastructure.

Southwestern's planned O&M projects are subject to change due to unanticipated equipment failure, customer needs, and weather conditions. The realities of maintaining a complex interconnected electric power system periodically require unforeseen reprioritizations of planned projects. All projects share the commonality of maintaining, repairing, and improving the aging infrastructure to ensure the reliability of the Federal power system.

Power Marketing

The Power Marketing activity funds technical and economic studies to support Southwestern's transmission planning, water resources management, and communication functions. Technical and economic studies provide data to analyze and evaluate the impacts of proposed operational changes and decision-making based on cost-benefit analysis. Funding is also required for Southwestern's coordination with the RTOs and to provide regional power restoration assistance to other non-hydropower generation sources during electric power grid emergencies. The National Electric Transmission Congestion Study identified constraints in the Nation's interconnected electrical grid which could impede power flows.

Operations

The Operations activity funds communication functions associated with the dispatch and delivery of power; environmental, safety, and health activities; and other transmission activity costs such as physical security, cybersecurity, and day-to-day power dispatch functions. The Operations activity includes three subactivities:

Communications

This subactivity funds telemetering improvements, technical support to protect cyber infrastructure, an e-tagging system that electronically schedules power for customers, load forecasting, digital test equipment, the radio frequency spectrum fee, and supplies and materials. The telemetering improvements include replacement of obsolete power and energy accounting equipment and modification of existing remote terminal units that improve the reliability of the power system, specifically in the areas of monitoring and control. Funding is required for Southwestern to meet the goals of the EPACT, NEP, and NERC while assuring reliability and continuing to coordinate with the RTOs in its marketing area. The funding level for communications maintenance is derived from maintenance history, the age of equipment, expected life span, annual diagnostic maintenance testing, and historical pricing information.

Environmental, Safety, and Health

This subactivity funds environmental activities including waste disposal and clean-up of oil and polychlorinated biphenyl contaminates from old circuit breakers and transformers, grounding and drainage, cultural resource reviews, and environmental assessments for threatened and endangered species. This subactivity also funds property transfers, wetland assessments, environmental library access, Toxic Substance Control Act and Resource Conservation Recovery Act compliance, contractor services, and requirements of the Environmental Protection Program as identified in DOE Order 450.1. The Safety and Health Program activities require funding for aviation safety, industrial hygiene, medical examinations, medical officer, wellness program, safety equipment, and first aid supplies.

Other Transmission

This subactivity funds physical security, field utility costs, and day-to-day power expenses of the dispatch center.

Maintenance

The Maintenance activity funds routine repair, maintenance, and improvement of Southwestern's substations/switchyards and high-voltage transmission lines and ensures delivery of reliable, efficient, and clean power to its customers. Southwestern's initial facilities, which were built approximately 60 years ago, are constantly evaluated. The funding level is based on analysis derived from age of equipment, risk of failure, life-cycle of equipment, and field crew evaluation. Internal and external factors include obsolescence of technology and unavailability of replacement parts. This budget request reflects Southwestern's assessment of the funding required to ensure continued reliability of the Federal power system and to fulfill the NERC operational criteria. The maintenance activity includes two subactivities:

Substation Maintenance

This subactivity funds power circuit breakers, disconnect switches, instrument transformers, protective relays and related equipment, computer aided drafting and design, revenue meters, vehicle maintenance, fuel, and other equipment to reliably perform general maintenance projects. Southwestern maintains the Federal power system in compliance with the regional electric reliability council and NERC requirements. The funding level for this subactivity is derived from an internal maintenance information system, which includes age and condition of the existing equipment.

Transmission Line Maintenance

This subactivity funds the purchase and maintenance of wood and steel structures, crossarms and braces, right-of-way (ROW) clearing, herbicide application, aerial patrol of the transmission system to identify maintenance needs, routine vehicle repair and maintenance, tractors, equipment, and fuel. The number of steel or wood poles and crossarms and high-voltage insulators replaced is derived from internal maintenance information system criteria. Emphasis has been placed on ROW clearing since NERC identified improper/insufficient ROW clearing as a major factor in potential blackouts. The funding level is appropriate as set forth by Southwestern's maintenance plan for meeting the goals of the EPACT, NEP, and NERC to maintain a reliable transmission system.

Capitalized Moveable Equipment

This activity funds the replacement of vehicles, tractor-trailers, and heavy equipment used for the maintenance and repair of the transmission system and facilities. These vehicles and equipment have exceeded their useful lives and require high levels of maintenance. The vehicle cost estimates are derived from General Services Administration (GSA) pricing schedules.

Operations and Maintenance
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Operations and Maintenance (O&M)				
Power Marketing	200	---	200	+0
Operations	10,415	---	5,235	-5,180
Maintenance	6,824	---	9,553	+2,729
Capitalized Moveable Equipment	1,840	---	1,692	-148
Subtotal, Operations and Maintenance	**19,279**	**19,258**	**16,680**	**-2,599**
Offsetting Collections (annual expenses)	-6,023	-6,012	-2,853	+3,170
Use of Prior Year Balances, (annual expenses)			-2,200	-2,200
Alternative Financing	-8,288	-8,288	-9,042	-754
Total, Operations and Maintenance	**4,968**	**4,958**	**2,585**	**-2,383**

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Operations and Maintenance

Activities and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs. FY 2016
Operations and Maintenance $19,279,000	**$16,680,000**	**-$2,599,000**
Power Marketing $200,000	**$200,000**	**+$0**
• The Power Marketing activity funds the technical and economic studies to support transmission planning.	• The Power Marketing activity funds the technical and economic studies to support transmission planning.	• The funding for this activity remains the same.
Operations $10,415,000	**$5,235,000**	**-$5,180,000**
Communications ($8,690,000) • Southwestern utilizes an in house SCADA/EMS system and needs a commercial off the shelf system in response to changing business needs. An upgraded SCADA/EMS system will assist in delivering power reliably and safely to our customers while maintaining costs and achieving higher customer satisfaction.	*Communications ($3,386,000)* • This subactivity funds telemetering improvements, technical support to protect cyber infrastructure, SCADA/EMS system maintenance, load forecasting, and digital testing equipment.	*Communications (-$5,304,000)* • The decrease reflects no additional funding needed for the SCADA/EMS system.
Environmental, Safety, and Health ($973,000) • The subactivity funds environmental, safety, and health services.	*Environmental, Safety, and Health ($910,000)* • Funding for this subactivity continues.	*Environmental, Safety, and Health (-$63,000)* • The decrease reflects a reduction in environmental and archeological surveys required for FY 2018.
Other Transmission ($752,000) • The subactivity funds physical security, field utility costs, and day to day expenses of the dispatch center.	*Other Transmission ($939,000)* • Funding for this subactivity continues.	*Other Transmission (+$187,000)* • The increase reflects additional security enhancements.
Maintenance $6,824,000	**$9,553,000**	**+$2,729,000**

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs. FY 2016
Substation ($4,821,000) • This subactivity funds all equipment, parts, and materials for the operation of high voltage substations.	*Substation ($6,226,000)* • Funding for this subactivity continues.	*Substation (+1,405,000)* • The increase reflects a circuit switcher and replacements.
Transmission Line Maintenance ($2,003,000) • This subactivity funds all equipment, parts and materials for the operation of the high voltage transmission system.	*Transmission Line Maintenance ($3,327,000)* • Funding for this subactivity continues.	*Transmission Line Maintenance (+$1,324,000)* • The increase reflects river crossing replacement.
Capitalized Moveable Equipment $1,840,000 • This activity funds the replacement of vehicles, tractor-trailers, and heavy equipment used for the maintenance and repair of the transmission system and facilities.	**$1,692,000** • This activity funds the replacement of vehicles, tractor-trailers, and heavy equipment used for the maintenance and repair of the transmission system and facilities.	**-$148,000** • The decrease reflects a reduction in the number and type of off-road heavy equipment utility trucks being replaced.

Southwestern Power Administration
Construction

Description

The activities of the Construction subprogram enable Southwestern to market and deliver Federal hydropower in the most reliable, safe, efficient, and cost-effective manner to meet the operational criteria required by the North American Electric Reliability Corporation while avoiding transmission infrastructure deterioration. Southwestern's planned construction projects are subject to change based on unanticipated equipment failure, customer needs, and weather conditions. The realities of maintaining a complex interconnected power system include unforeseen priority projects which arise periodically, causing a reprioritization of planned projects. All projects share the commonality of replacing aging infrastructure to maintain the reliability of the Federal power system.

Transmission System

This activity funds all current construction projects that require expansion of, or additions to, existing facilities. However, the budget request includes a proposal to authorize the Federal government to sell the transmission assets of Southwestern. Southwestern ensures system reliability by replacing aging equipment and removing constraints that limit power flows. The projects outlined below address Southwestern's efforts to reduce the risk of extended service outages, avoid more costly replacements in the future, and support the increased transmission system usage. The funding level for this activity is derived from internal and external management decisions and field crew observations. System age, risk of equipment failure, life-cycles, and obsolescence of technology and unavailability of spare parts, budget constraints, cost, and demand for more capacity are also considered in these budgeting decisions. These variables are assessed and incorporated into Southwestern's ten-year construction plan. The transmission activity includes three subactivities:

Substation Upgrades

This subactivity funds the construction and upgrade of the substations and the components necessary to provide improved system reliability and reduce future maintenance and equipment costs. Southwestern owns and operates 26 substation/switching stations. Many of these facilities were designed and constructed over 60 years ago.

Communication Upgrades

This subactivity funds all communication equipment planned to provide improved system reliability and reduce future maintenance and equipment costs. This subactivity also provides funding for microwave radios and microwave tower additions, replacements, and modifications that will increase the reliability of communications with generating plants and substations. The communication system provides for the transfer of voice and data traffic to allow monitoring and control of power system generation and transmission assets.

Transmission Upgrades

This subactivity funds transmission system upgrades. Much of the conductor, optical ground wire (OPGW), and static wire on Southwestern's transmission lines has reached the end of its service life. With this assumed service life, approximately 20 to 30 miles of transmission line, including the conductor, OPGW, static wire, and structures, will need to be replaced each year.

Spectrum Relocation

The Commercial Spectrum Enhancement Act of 2004 (CSEA, Title II of P.L. 108-494) created the Spectrum Relocation Fund (SRF) to streamline the relocation of Federal systems from existing spectrum bands and accommodate commercial use by facilitating reimbursement of relocation costs to affected agencies. Southwestern has received $42.8 million in spectrum relocation funds, as approved by the Office of Management and Budget, and as reported to the Congress. Southwestern has completed 94 percent of the tower installation project and anticipates completion by the spring of 2019. These mandatory funds will remain available until expended, and Southwestern will return any amounts received in excess of actual relocation costs to the SRF. Spectrum relocation activities were funded from spectrum auction proceeds; thus, no funding is requested in this subactivity.

Construction
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Construction				
Transmission System				
Substation Upgrades	2,371	---	2,209	-162
Communication Upgrades	3,161	---	4,837	+1,676
Transmission Upgrades	6,480	---	7,886	+1,406
Subtotal, Construction	**12,012**	**12,004**	**14,932**	**+2,920**
Alternative Financing	-7,574	-7,574	-9,417	-1,843
Total, Construction	**4,438**	**4,430**	**5,515**	**+1,077**

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Construction

Activities and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2016 vs. FY 2018
Construction $12,012,000	**$14,932,000**	**+$2,920,000**
Transmission System $12,012,000	**$14,932,000**	**+$2,920,000**
Substation Upgrades ($2,371,000) • Poplar Bluff Transformer replacement project consists of replacing a 1971, 37.5 MVA, autotransformer that threatens system reliability due to exceeding its life expectancy of 35 years. Due to its age, this autotransformer is difficult to repair due to scarcity of parts and overloading issues.	*Substation Upgrades ($2,209,000)* • Poplar Bluff Transformer #2 replacement project consists of replacing an autotransformer that threatens system reliability due to exceeding its life expectancy of 35 years. Due to its age, this autotransformer is difficult to repair due to scarcity of parts and overloading issues.	*Substation Upgrades (-$162,000)* • The decrease reflects a minimal decrease in the projected cost of replacing the transformer based on size and ratings.
Communication Upgrades ($3,161,000) • This subactivity funds all communication equipment, microwave radios, and tower replacements.	*Communication Upgrades ($4,837,000)* • This subactivity funds all communication equipment, fiber optic, and microwave systems additions and replacements.	*Communication Upgrades (+$1,676,000)* • The increase reflects an increase in the replacement of fiber optic and microwave systems.
Transmission Upgrades ($6,480,000) • Beaver to Eureka Springs Transmission Line replacement, 6 miles, and replace 40 miles of OPGW on 4 other transmission line segments. This replacement is due to age and condition.	*Transmission Upgrades ($7,886,000)* • Replace OPGW on Gore to Fort Gibson, 23.4 miles; Rebuild Sallisaw – Liberty, 13.1 miles.	*Transmission Upgrades (+$1,406,000)* • The increase in funding reflects replacing OPGW.

Southwestern Power Administration
Purchase Power and Wheeling

Description

The Purchase Power and Wheeling (PPW) subprogram provides for the purchase of energy to meet peaking power contractual obligations and the delivery of Federal power. Southwestern's power sales contracts provide for 1200-hours of peaking power per year, representing only a portion of its customers' firm load requirements. The customers provide their own resources and/or purchases for the remainder of their firm loads. Southwestern must purchase power when the generating projects cannot produce enough to fulfill its 1200-hour contract obligations. Above average purchases are required in times of severe drought or instances of multiple project outages that limit power production. Purchases of power are generally made on the open spot market and with public entities. Delivery of purchase power to Southwestern's system is made via the Southwest Power Pool RTO or our own transmission system. All such power purchases are blended with the available Federal hydroelectric power to provide a more beneficial and reliable product while ensuring repayment of the Federal investment plus interest.

Southwestern's budget request for the PPW subprogram reflects anticipated needs to ensure adequate funding to fulfill its 1,200-hour peaking power contractual obligations based on volatile market prices, limited availability of energy banks, and all but the most severe hydrological conditions. Southwestern will continue to use Federal power receipts and alternative financing arrangements, which include net billing, bill crediting, and/or reimbursable authority (customer advances), to fund this subprogram. When hydropower generation falls significantly below normal due to severe drought conditions or major outages, Southwestern will utilize the Continuing Fund for emergency PPW expenses.

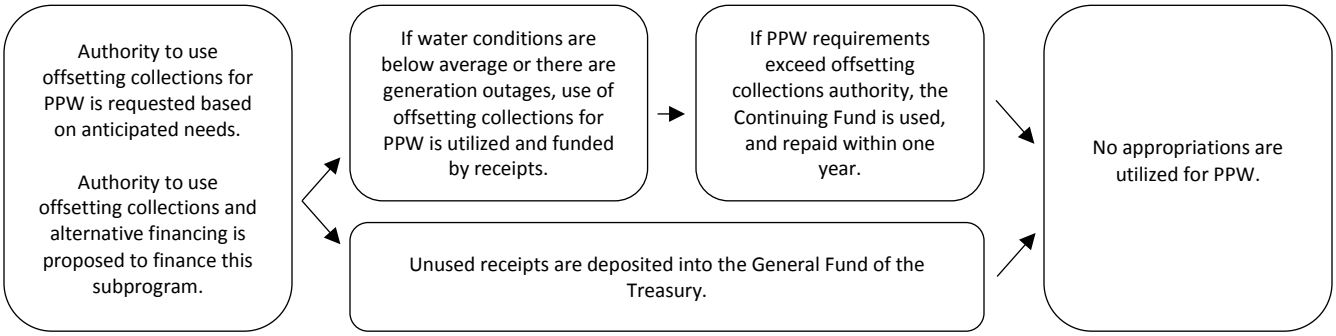
The activities of the PPW subprogram provide for the purchase of energy to fulfill limited peaking power contractual obligations to ensure the marketability of the Federal resource and repayment of the Federal investment. This subprogram also provides for wheeling services that deliver Federal power to optimize the operation of the hydroelectric facilities marketed by Southwestern. This subprogram enhances the reliability of the electrical transmission grid. PPW includes two activities:

<u>System Support</u>

This activity funds purchase power requirements of the hydroelectric power system needed to fulfill all 1200-hour contractual peaking power obligations with customers. System support requirements depend on the conditions of the hydroelectric power system which is affected by weather, volatile market prices, and limited availability of energy banks. In prior years, inadequate funding for PPW and hydrological fluctuations required multiple requests to access the Continuing Fund to ensure sufficient funding was available to fulfill Southwestern's 1200-hour peaking power contractual obligations. In FY 2008, Southwestern requested, and Congress approved, an increase in its authority to use Federal power receipts (offsetting collections). The use of this authority will be dependent upon the hydrological conditions realized during the fiscal year. Under average conditions, less than half of the authority requested will be used. Since the rates charged to its customers are based on full cost recovery, Southwestern has a built-in incentive to minimize expenditures for purchase power. This authority ensures greater flexibility in times of below average generation and volatile market prices, and will decrease dependence on the Continuing Fund under all but the most severe hydrological conditions.

Other Contractual Services

This activity funds other contractual services that provide for wheeling associated with the purchase of transmission service to meet limited peaking power obligations and for the integration of projects for the delivery of Federal power. The funding level is derived from contractual wheeling requirements. The FY 2018 funding request reflects the projected cost for wheeling services based on contractual pricing and delivery terms.



Purchase Power and Wheeling
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Purchase Power and Wheeling				
System Support	69,500	69,380	89,500	+20,000
Other Contractual Services	3,500	3,500	3,500	0
Subtotal, Purchase Power and Wheeling	**73,000**	**72,880**	**93,000**	**+20,000**
Offsetting Collections (PPW)	-63,000	-62,880	-83,000	-20,000
Alternative Financing	-10,000	-10,000	-10,000	0
Total, Purchase Power and Wheeling	**0**	**0**	**0**	**0**

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Purchase Power and Wheeling

Activities and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2016 vs FY 2018
Purchase Power and Wheeling $73,000,000	**$93,000,000**	**+$20,000,000**
System Support $69,500,000	**$89,500,000**	**+$20,000,000**
• This activity funds purchase power requirement needed to fulfill all 1200-hour contractual peaking power obligations with customers.	• This activity funds purchase power requirement needed to fulfill all 1200-hour contractual peaking power obligations with customers.	• The increase in system support reflects anticipated needs based on projected increase in market prices.
Other Contractual Services $3,500,000	**$3,500,000**	**+$0**
• Contractual services for wheeling associated with the purchase of transmission service.	• Contractual services for wheeling associated with the purchase of transmission service.	• Funding remains the same.

Program Direction

Overview

Southwestern's Program Direction subprogram ensures continued reliability of the Federal power system by utilizing Federal staffing resources and associated funds required to provide overall direction and execution of Southwestern's Operation and Maintenance Program.

The Program Direction subprogram supports DOE's and Southwestern's missions by providing compensation and all related expenses for its workforce, including those employees that operate and maintain Southwestern's high-voltage interconnected transmission system and associated facilities; those that plan, design, and supervise the construction of replacements, upgrades, and additions (capital investments) to the transmission facilities; those that market the power and energy produced to repay annual expenses and capital investment; and those that administratively support these functions.

Southwestern will use available programs, and develop new strategies to hire and train the next generation of engineers, power system dispatchers, high voltage electricians, and lineman. These initiatives will address the shortage of these valuable resources because of retirement trends, and the ever-expanding demands on the electric utility industry, such as compliance with the standards of the North American Electric Reliability Corporation (NERC).

Southwestern trains all employees on a continuing basis in occupational safety and health regulations, policies, and procedures to keep the safety culture strong. Accidents are always reviewed to ensure lessons are learned and proper work protocol is in place.

Highlights of the FY 2018 Budget Request

The FY 2018 Budget Request's funding level for salaries is derived from the current year budgeted salaries, projected cost-of-living adjustments, promotions, and within-grade increases. The funding level for benefits is derived from a percentage of budgeted salaries.

Program Direction
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Southwestern Power Administration				
Salaries and Benefits	23,765	---	22,688	-1,077
Travel	1,182	---	1,356	+174
Support Services	3,267	---	3,591	+324
Other Related Expenses	3,718	---	3,700	-18
Subtotal, Southwestern Power Administration	**31,932**	**31,871**	**31,335**	**-597**
Offsetting Collections (annual expenses)	-29,938	-29,881	-16,035	+13,903
Use of Prior Year Balances, PD (annual expenses)			-12,000	-12,000
Total, Program Direction	**1,994**	**1,990**	**3,300**	**+1,306**
Federal FTEs	194	194	194	0
Support Services				
Management Support				
Reports and Analyses management and General Administrative Support	3,267	---	3,591	+324
Total Management Support	3,267	---	3,591	+324
Total, Support Services	**3,267**	**---**	**3,591**	**+324**
Other Related Expenses				
Rent to Others	845	---	840	-5
Communication, Utilities, Misc.	250	---	255	+5
Printing and Reproduction	100	---	110	+10
Other Services	645	---	660	+15
Training	250	---	260	+10
Power Marketing Liaison	93	---	97	+4
Financial Audit	570	---	528	-42
Supplies and Materials	250	---	250	0
Equipment	497	---	475	-22
Working Capital Fund	218	---	225	+7
Total, Other Related Expenses	**3,718**	**---**	**3,700**	**-18**

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Program Direction

Activities and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Program Direction $31,932,000	**$31,335,000**	**-$597,000**
Salaries and Benefits $23,765,000	**$22,688,000**	**-$1,077,000**
• The FY 2016 level supports 194 Federal employees: 54 percent of the employees are General Schedule (GS) and subject to the Administration's proposed cost-of-living adjustment; salaries of the remaining 46 percent (craft workers and power system dispatchers) are determined through union negotiations and wage surveys. This activity also included overtime, awards, relocation, workers' compensation, recruitment bonuses, retention pay, and advanced in-hire rates. Southwestern will continue to invest in its employees, emphasizing strong development programs, completing skills gap analyses, and pursuing aggressive recruitment and retention efforts as identified in its Human Capital Management Workforce Plan.	• The FY 2018 level supports 194 Federal employees: 54 percent of the employees are GS and subject to the Administration's proposed cost-of-living adjustment; salaries of the remaining 46 percent (craft workers and power system dispatchers) are determined through union negotiations and wage surveys. This activity also includes overtime, awards, relocation, workers' compensation, recruitment bonuses, retention pay, and advanced in-hire rates. By the end of FY 2018, approximately 32 percent of Southwestern's staff will be eligible for retirement. Southwestern will continue to invest in its employees, emphasizing strong development programs, completing skills gap analyses, and pursuing aggressive recruitment and retention efforts as identified in its Human Capital Management Workforce Plan.	• The decrease incorporates projected retirements and the time lag in recruitment for hard to fill positions.
Travel $1,182,000	**$1,356,000**	**+$174,000**

FY 2016 Enacted	FY 2017 Request	Explanation of Changes FY 2016 vs FY 2018
Support Services $3,267,000	**$3,591,000**	**+$324,000**
• This activity funds contracted management support services including information technology, E-Government, and administrative/records management support. The funding level for this activity is derived from the most recent negotiated contract for support services essential to achieve Southwestern's mission.	• This activity funds contracted management support services including information technology, E-Government, and administrative/records management support. The funding level for this activity is derived from the most recent negotiated contract for support services essential to achieve Southwestern's mission.	• The increase reflects additional contract support in the cyber security area to meet the requirements of providing secure services for the alternate control center.
Other Related Expenses $3,718,000	**$3,700,000**	**-$18,000**
• This activity funds rental space, facility security, the financial audit, services of the Power Marketing Liaison Office, the working capital fund, technology refresh in the areas of personal computers, hardware and software, printing and reproduction, and training and tuition fees in support of workforce planning and required training to meet the NERC emergency operations requirement. Rental space costs assume the GSA inflation factor. Other costs are based on the historical usage and actual cost of similar items.	• This activity funds rental space, facility security, the financial audit, services of the Power Marketing Liaison Office, the working capital fund, technology refresh in the areas of personal computers, hardware and software, printing and reproduction, and training and tuition fees in support of workforce planning and required training to meet the NERC emergency operations requirement. Rental space costs assume the GSA inflation factor. Other costs are based on the historical usage and actual cost of similar items.	• The decrease reflects equipment replacements, and financial audit costs offset by increases in other areas.

Southwestern Power Administration Performance Measures

In accordance with the GPRA Modernization Act of 2010, the Department sets targets for, and tracks progress toward, achieving performance goals for each program.

	FY 2016	FY 2017	FY 2018
Performance Goal (Measure)	**SWPA Repayment of Investment Performance - Ensure unpaid investment (UI) is equal to or less than the allowable unpaid investment (AUI) in accordance with DOE Order RA 6120.2 and Reclamation Law.**		
Target	≤ 1,460 million in AUI	≤ 1,536 million in AUI	≤ 1,590 million in AUI
Result	Met - 504	TBD	TBD
Endpoint Target	Continue to meet legislated cost recovery requirements for timely repayment of Federal investment in maintaining financial integrity of projects/program.		
Performance Goal (Measure)	**SWPA System Reliability Performance - NERC - Meet industry averages (CPS1: 162.3 and CPS2: 96.7) and at a minimum, meet NERC Control Performance Standards (CPS) of CPS1>100 and CPS2>90. CPS1: minute by minute measures a generating system's ability to match supply to changing demand requirements and support desired system frequency (about 60 cycles per second); CPS2: measures systems ability to limit the magnitude of generation and demand imbalances.**		
Target	CPS1>100 and CPS2>90	CPS1>100	CPS1>100
Result	Met - 220.25	TBD	TBD
Endpoint Target	Southwestern ensures the integrity of the nation's integrated grid by operating in compliance with National Energy Reliability Standards.		

Southwestern Power Administration
Revenues and Receipts

(Dollars in Thousands)

	FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
Gross Revenues							
Sale and Transmission of Electric Energy	211,965	258,300	268,300	268,300	268,300	268,300	269.500
Total, Gross Revenues	211,965	258,300	268,300	268,300	268,300	268,300	269,500
Alternative Financing Credited as an Offsetting Receipt, Net Billing/Bill Crediting	-58,077	-78,600	-84,400	-82,900	-83,900	-80,600	-76,500
Offsetting Collections, Southwestern Annual Expenses (Net Zero)	-35,961	-34,586	-33,088	-34,590	-35,151	-35,592	-36,541
Offsetting Collections Realized, Purchase Power and Wheeling	-13,000	-73,000	-83,000	-93,000	-93,000	-93,000	-93,000
Continuing Fund Usage for PPW	0	0	0	0	0	0	0
Total Proprietary Receipts	**104,927**	**72,114**	**67,812**	**57,810**	**56,249**	**59,108**	**63,459**
Percent of Sales to Preference Customers	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Energy Sales from Power Marketed (billions of kilowatt hours)	5.4	5.4	5.4	5.4	5.4	5.4	5.4

Southwestern Power Administration
System Statistics

	FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
Generating Capacity (kilowatts)							
Installed Capacity	2,173,800	2,173,800	2,173,800	2,173,800	2,173,800	2,173,800	2,173,800
Peak Capacity	2,052,500	2,052,500	2,052,500	2,052,500	2,052,500	2,052,500	2,052,500
Generating Stations							
Generating Projects (Number)	24	24	24	24	24	24	24
Substations/Switchyards (Number)	26	26	26	26	26	26	26
Substations/Switchyards (kVA Capacity)	1,026,900	1,026,900	1,026,900	1,026,900	1,026,900	1,026,900	1,026,900
Available Energy (Megawatt-hours)							
Energy Generated	6,613,227	2,720,469	5,110,600	5,220,100	5,220,400	5,220,400	5,220,400
Energy Received	58,468	225,912	211,600	211,600	211,600	211,600	211,600
Total, Energy Available for Marketing	**6,671,695**	**2,946,381**	**5,322,200**	**5,411,700**	**5,432,000**	**5,432,000**	**5,432,000**
Transmission Lines (Circuit-Miles)							
161-KV	1,117	1,117	1,117	1,117	1,117	1,117	1,117
138-KV	164	164	164	164	164	164	164
69-KV	99	99	99	99	99	99	99
Total, Transmission Lines	**1,380**	**1,380**	**1,380**	**1,380**	**1,380**	**1,380**	**1,380**

Power Marketed, Wheeled, or Exchanged by Project

	State	Number of Plants	Installed Capacity (kW)	FY 2016 Actual Energy (GWh)	FY 2017 Estimated Energy (GWh)	FY 2018 Estimated Energy (GWh)	FY 2019 Estimated Energy (GWh)	FY 2020 Estimated Energy (GWh)	FY 2021 Estimated Energy (GWh)	FY 2022 Estimated Energy (GWh)
Power Marketed										
Interconnected										
System	Missouri	4	463,200	2,287	1,055	1,819	1,851	1,858	1,858	1,858
	Arkansas	9	1,037,100	1,205	556	959	975	979	979	979
	Oklahoma	7	514,100	1,330	614	1,058	1,077	1,081	1,081	1,081
	Texas	2	100,000	778	359	619	630	632	632	632
	Louisiana	0	0	397	183	316	322	323	323	323
	Kansas	0	0	500	231	398	405	406	406	406
Subtotals		22	2,114,400	6,497	2,998	5,169	5,260	5,279	5,279	5,279
Isolated:										
Robert D. Willis Project										
Sam Rayburn Project										
50% to Texas		2	59,400	26	8.5	76	76	76	76	76
50% to Louisiana		0	0	26	8.5	76	76	76	76	76
Subtotals		2	59,400	52	17	152	152	152	152	152
Total, Power Marketed		**24**	**2,173,800**	**6,549**	**3,015**	**5,321**	**5,412**	**5,431**	**5,431**	**5,431**
Power Wheeled/Exchanged										
Wheeled (MW)				1,212	1,047	989	933	998	998	998
Exchanged (GWh)				0	0	0	0	0	0	0

Department Of Energy

FY 2018 Congressional Budget

Funding By Appropriation By Site

($K)

Southwestern Power Admin. - Operation & Maint.	FY 2016 Enacted	FY 2017 Annualized CR	FY 2018 Request
Southwestern Power Administration			
Systems Operation and Maintenance			
Systems Operation and Maintenance	19,279	19,258	16,680
Purchase Power and Wheeling			
Purchase Power and Wheeling	73,000	72,880	93,000
SWPA Construction			
Construction	12,012	12,004	14,932
Program Direction			
Program Direction	31,932	31,871	31,335
Total, Southwestern Power Administration	**136,223**	**136,013**	**155,947**
Total, Southwestern Power Admin. - Operation & Maint.	**136,223**	**136,013**	**155,947**

Western Area Power Administration

Western Area Power Administration

Construction, Rehabilitation, Operation and Maintenance
Western Area Power Administration
Proposed Appropriation Language

For carrying out the functions authorized by title III, section 302(a)(1)(E) of the Act of August 4, 1977 (42 U.S.C. 7152), and other related activities including conservation and renewable resources programs as authorized, $267,686,000, including official reception and representation expenses in an amount not to exceed $1,500, to remain available until expended, of which $265,661,000 shall be derived from the Department of the Interior Reclamation Fund: Provided, That notwithstanding 31 U.S.C. 3302, section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s), and section 1 of the Interior Department Appropriation Act, 1939 (43 U.S.C. 392a), up to $174,314,000 collected by the Western Area Power Administration from the sale of power and related services shall be credited to this account as discretionary offsetting collections, to remain available until expended, for the sole purpose of funding the annual expenses of the Western Area Power Administration: Provided further, That the sum herein appropriated for annual expenses shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year 2018 appropriation estimated at not more than $93,372,000, of which $91,347,000 is derived from the Reclamation Fund: Provided further, That notwithstanding 31 U.S.C. 3302, up to $308,925,000 collected by the Western Area Power Administration pursuant to the Flood Control Act of 1944 and the Reclamation Project Act of 1939 to recover purchase power and wheeling expenses shall be credited to this account as offsetting collections, to remain available until expended for the sole purpose of making purchase power and wheeling expenditures: Provided further, That for purposes of this appropriation, annual expenses means expenditures that are generally recovered in the same year that they are incurred (excluding purchase power and wheeling expenses).

Note.—A full-year 2017 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Further Continuing Appropriations Act, 2017 (P.L. 114–254). The amounts included for 2017 reflect the annualized level provided by the continuing resolution.

Explanation of Changes

There is no change in the appropriation language.

Public Law Authorizations

- P.L. 57-161, “The Reclamation Act of 1902”
- P.L. 78-534, “Flood Control Act of 1944”
- P.L. 95-91, “Department of Energy Organization Act” (1977)
- P.L. 102-486, “Energy Policy Act of 1992”
- P.L. 66-389, “Sundry Civil Appropriations Act” (1922)
- P.L. 76-260, “Reclamation Project Act of 1939”
- P.L. 80-790, “Emergency Fund Act of 1948”
- P.L. 102-575, “Reclamation Projects Authorization and
- Adjustment Act of 1992”
- “Economy Act” of 1932, as amended (41 stat. 613)
- “Interior Department Appropriation Act of 1928”
- (44 Stat. 957)
- P.L. 70-642, “Boulder Canyon Project Act” (1928)
- P.L. 75-756, “Boulder Canyon Project Adjustment Act” (1940)
- P.L. 98-381, “Hoover Power Plant Act of 1984”
- P.L. 75-529, “The Fort Peck Project Act of 1938”
- P.L. 84-484, “The Colorado River Storage Project Act of 1956”
- P.L. 90-537, “The Colorado River Basin Project Act of 1968”
- The Act of June 18, 1954 (68 Stat. 255)
- P.L. No 111-5, “American Recovery and Reinvestment Act of 2009”

Falcon and Amistad Operating and Maintenance Fund
Proposed Appropriation Language

For operation, maintenance, and emergency costs for the hydroelectric facilities at the Falcon and Amistad Dams, $4,176,000, to remain available until expended, and to be derived from the Falcon and Amistad Operating and Maintenance Fund of the Western Area Power Administration, as provided in section 2 of the Act of June 18, 1954 (68 Stat. 255): Provided, That notwithstanding the provisions of that Act and of 31 U.S.C. 3302, up to $3,948,000 collected by the Western Area Power Administration from the sale of power and related services from the Falcon and Amistad Dams shall be credited to this account as discretionary offsetting collections, to remain available until expended for the sole purpose of funding the annual expenses of the hydroelectric facilities of these Dams and associated Western Area Power Administration activities: Provided further, That the sum herein appropriated for annual expenses shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year 2018 appropriation estimated at not more than $228,000: Provided further, That for purposes of this appropriation, annual expenses means expenditures that are generally recovered in the same year that they are incurred: Provided further, That for fiscal year 2018, the Administrator of the Western Area Power Administration may accept up to $872,000 in funds contributed by United States power customers of the Falcon and Amistad Dams for deposit into the Falcon and Amistad Operating and Maintenance Fund, and such funds shall be available for the purpose for which contributed in like manner as if said sums had been specifically appropriated for such purpose: Provided further, That any such funds shall be available without further appropriation and without fiscal year limitation for use by the Commissioner of the United States Section of the International Boundary and Water Commission for the sole purpose of operating, maintaining, repairing, rehabilitating, replacing, or upgrading the hydroelectric facilities at these Dams in accordance with agreements reached between the Administrator, Commissioner, and the power customers.

Note.—A full-year 2017 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Further Continuing Appropriations Act, 2017 (P.L. 114–254). The amounts included for 2017 reflect the annualized level provided by the continuing resolution.

Explanation of Changes

There is no change in the appropriation language.

Public Law Authorizations

- P.L. 103-236, "Foreign Relations Authorization Act, Fiscal Years 1994 and 1995"
- The Act of June 18, 1954 (68 Stat. 255)

Western Area Power Administration
($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request
Gross	1,170,396	---	1,179,304
Offsets	1,099,796	---	1,108,704
Net BA	**70,600**	**70,422**	**70,600**

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Overview

Western Area Power Administration's (WAPA) mission is to market and reliably deliver cost-based Federal hydroelectric power. WAPA markets power in 15 central and western states from Federally-owned power plants operated primarily by the U.S. Army Corps of Engineers, U.S. Bureau of Reclamation, and the Department of State's International Boundary and Water Commission. WAPA currently operates and maintains a high-voltage, integrated transmission system, including approximately 17,000 circuit-miles of high-voltage transmission lines, more than 300 substations/switchyards and associated power system controls, and communication and electrical facilities.

WAPA serves a diverse group of nearly 700 wholesale customers, including municipalities, cooperatives, public utility and irrigation districts, Federal and state agencies and Native American tribes. In turn, WAPA's customers provide service to millions of retail consumers.

WAPA's base program is funded through three appropriation accounts: 1) the Construction, Rehabilitation, Operation and Maintenance Account (CROM); 2) Falcon and Amistad Operating and Maintenance Fund; and 3) Colorado River Basins Power Marketing Fund (CRBPMF). Within these three accounts, there are seven subprograms; four in the CROM Account, one in the Falcon and Amistad Operating and Maintenance Fund, and two in CRBPMF.

Highlights and Major Changes in the FY 2018 Budget Request

The FY 2018 budget request includes a proposal to authorize the Federal government to sell the transmission assets of WAPA. The budget also includes a proposal to repeal the $3.25 billion in borrowing authority managed by WAPA's Transmission Infrastructure Program (TIP).

WAPA's FY 2018 budget includes $35 million in 'Use of Prior Year Balances', reducing the new offsetting collections needed for the annual expenses in the CROM account's Program Direction and Operations and Maintenance programs. The Use of Prior Year Balances are not appropriations, but receipts derived from power and transmission sales to WAPA customers.

Western Area Power Administration
Funding by Congressional Control ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Construction, Rehabilitation, Operation and Maintenance (CROM)				
Operation and Maintenance	80,901	---	72,407	-8,494
Construction and Rehabilitation	58,374	---	52,272	-6,102
Purchase Power and Wheeling	565,927	---	597,997	+32,070
Program Direction	236,398	---	235,722	-676
Subtotal, CROM Program	941,600	---	958,398	+16,798
Alternative Financing				
Operation and Maintenance	-1,757	---	0	+1,757
Construction and Rehabilitation	-53,585	---	-40,500	+13,085
Purchase Power and Wheeling	-213,114	---	-289,072	-75,958
Program Direction	-5,273	---	-8,056	-2,783
Subtotal, Alternative Financing	-273,729	---	-337,628	-63,899
Offsetting Collections from Colorado River Dam Fund				
Operation and Maintenance	-1,314	---	-1,580	-266
Program Direction	-6,030	---	-7,726	-1,696
Subtotal, Offsetting Collections from Colorado River Dam Fund	-7,344	---	-9,306	-1,962
Offsetting Collections, annual Operation and Maintenance and Program Direction				
Operation and Maintenance	-36,645	-36,575	-23,922	+12,723
Program Direction	-177,697	-177,359	-150,392	+27,305
Subtotal, Offsetting Collections, annual Operation and Maintenance and Program Direction	-214,342	-213,934	-174,314	+40,028
Offsetting Collections, Purchase Power and Wheeling	-352,813	-352.142	-308,925	+43,888
Use of Prior Year Balances				
Annual Operation and Maintenance			-7,305	-7,305
Annual Program Direction			-27,548	-27,548
Subtotal, Use of Prior Year Balances			-34,853	-34,853
Subtotal, CROM	**93,372**	**93,194**	**93,372**	**0**
Rescission of prior year balances	0	0	0	0
Total, CROM	**93,372**	**93,194**	**93,372**	**0**
Federal FTEs	**1,151**		**1,222**	**+71**

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Falcon and Amistad Operating and Maintenance Fund	4,950	---	5,048	+98
Offsetting Collections, annual Operation and Maintenance	-4,262	---	-3,948	+314
Alternative Financing	-460	---	-872	-412
Total, Falcon and Amistad	**228**	**228**	**228**	**0**
Federal FTEs	**0**		**0**	**0**
Colorado River Basins Power Marketing Fund (CRBPMF)	215,647	---	185,396	-30,251
Offsetting Collections	-238,647	---	-208,396	+30,251
Total, CRBPMF	**-23,000**	**-23,000**	**-23,000**	**0**
Federal FTEs	**301**		**280**	**-21**
Transmission Infrastructure Program Fund (TIP)	8,199	---	30,462	+22,263
Advance Funding	-2,500	---	-5,550	-3,050
Offsetting Collections	-5,699	---	-24,912	-19,213
Total TIP	**-**	**-**	**-**	**-**
Federal FTEs	**17**		**19**	**+2**
Total, Western Area Power Administration	**70,600**	**70,422**	**70,600**	**0**
Federal FTEs	**1,469**		**1,521**	**+52**

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Construction, Rehabilitation, Operation and Maintenance
Western Area Power Administration
($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request
Gross	941,600	---	958,398
Offsets	-848,228	---	-865,026
Net BA	**93,372**	**93,194**	**93,372**

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Overview

WAPA markets and delivers reliable, cost-based Federal hydroelectric power and related services. WAPA's marketing efforts and delivery capability provide for recovery of annual operational costs, including the generating agencies' hydropower related costs, and repayment of taxpayer investment in the Federal hydropower program. WAPA repays the Federal investment for which it is responsible within the timeframes established by law and regulations.

WAPA's Construction, Rehabilitation, Operation and Maintenance Account (CROM) is comprised of four subprograms:

- Operation and Maintenance
- Construction and Rehabilitation
- Purchase Power and Wheeling
- Program Direction

Highlights of the FY 2018 Budget Request

The FY 2018 request continues to support WAPA's ongoing mission and programs, using a variety of financing methods including appropriations, alternative financing (primarily customer advances), and use of receipt authorities. The budget request includes a proposal to authorize the Federal government to sell the transmission assets of WAPA.

WAPA's FY 2018 budget for CROM includes $35 million in 'Use of Prior Year Balances', reducing the new offsetting collections needed for the annual expenses in the CROM account's Program Direction and Operations and Maintenance programs. The Use of Prior Year Balances are not appropriations, but receipts derived from power and transmission sales to WAPA customers.

Operation and Maintenance
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Operation and Maintenance				
Regular Operation and Maintenance	40,188	---	33,291	-6,897
Replacements and Additions	40,713	---	39,116	-1,597
Total, Operation and Maintenance	**80,901**	**---**	**72,407**	**-8,494**
Alternative Financing	-1,757	---	0	+1,757
Use of Receipts from Colorado River Dam Fund	-1,314	---	-1,580	-266
Offsetting Collections	-36,645	-36,575	-23,922	+12,723
Use of Prior Year Balances	0	---	-7,305	-7,305
Total, Operation and Maintenance (Budget Authority)	**41,185**	**42,027**	**39,600**	**-1,585**

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Description
The Operation and Maintenance (O&M) subprogram is to assure continued reliability of the Federal power system by operating and maintaining WAPA's transmission system at or above industry standards, including replacement of equipment and removal of constraints that would impede power flows.

Regular Operation and Maintenance
Supplies and materials necessary to respond to routine and emergency situations in WAPA's high-voltage interconnected transmission system will be purchased. This includes miscellaneous equipment and software used for power billing, transmission planning, e-tagging, and energy scheduling, as well as supplies and materials such as wood poles (individual pole replacement only; excludes whole line replacements), instrument transformers, meters, relays, etc.

Replacements and Additions
WAPA's planned replacements and additions activity is based on an assessment of condition and criticality of equipment, maintenance/frequency of problems on individual items of equipment, availability of replacement parts, safety of the public and WAPA's personnel, environmental concerns and an orderly work plan. Cost estimates are based on an analysis of system operation/maintenance requirements and concerns, customer-coordinated work plans, actual costs of recent similar projects, and bottom-up budgeting techniques. Planned activity is detailed by category below.

Electrical Equipment
Electrical equipment, such as circuit breakers, transformers, relays, batteries and chargers, reactors, meters, buses, surge arresters, capacitor banks and disconnect switches, will replace obsolete equipment at facilities throughout WAPA's 15-state area. Test equipment used by maintenance crews, such as metering and relaying test sets, pentameters, Ohm testers, oil dielectric testers, battery load testers, and specialized communication and environmental control test equipment is also included. Also included in this request is funding for WAPA's wood pole replacement program. This is a continuing program to replace wood transmission line structures, line hardware, and repair damaged conductors and static wires. Due to age, woodpecker damage, vibratory fatigue, and general deterioration, the system requires constant maintenance upgrades and repairs in order to eliminate the weak links and improve the reliability to our customers.

Communications Equipment
Key to system reliability, replacement of remote terminal units (RTU), telephone systems, microwave links, and aged radio systems with new generation digital radio and fiber optic systems continues. Manufacturers are discontinuing support of obsolete time domain multiplexing (TDM) digital technology equipment in favor of newer packet/internet protocol (IP) based technology as the industry transitions to packet-based networks. WAPA continues with its migration plans to incorporate packet technologies as the current TDM based equipment reaches its end-of-life. Manufacturers have discontinued support of the digital mobile radio equipment WAPA is operating due to obsolescence; this equipment will be replaced with new digital mobile radio technology equipment over the next several years. WAPA's communication systems are currently made up of approximately 11 percent fiber optics, 77 percent fixed radio, and 12 percent mobile radio. WAPA currently has 1,166 radio frequency authorizations for fixed radio bands, all of which are digital. This funding will not be used to replace equipment impacted by the Spectrum Relocation initiative discussed below.

In addition, WAPA will continue to upgrade its existing supervisory control and data acquisition (SCADA) systems which control WAPA's electric power system. These hardware and software upgrades improve grid reliability by allowing the main SCADA computer to communicate with RTUs in over 300 substations across WAPA's territory, thus allowing the power system dispatcher to operate a device in any of these substations to rapidly make changes in response to electric power industry requirements or system emergencies.

Spectrum Relocation Equipment

The Commercial Spectrum Enhancement Act (CSEA, Title II of P.L. 108-494) of 2004, created the Spectrum Relocation Fund (SRF) to streamline the relocation of Federal systems from specific radio spectrum bands. These spectrum bands will accommodate commercial users and the SRF will facilitate reimbursement to affected agencies for relocation costs. The Federal Communications Commission has allocated this spectrum for Advanced Wireless Services. Funds have been made available to agencies from the crediting of auction receipts to the SRF during fiscal year 2007 and system relocation efforts are underway. WAPA received $108.2 million for this effort. This amount includes WAPA's estimated relocation costs, as approved by the Office of Management and Budget, and as reported to the Congress by the Department of Commerce in December 2005. Since receipt of these funds, WAPA has completed the preliminary and final design work including radio path analysis, tower load analysis, communication building upgrades and replacements, acquiring radio frequency authorizations, and completing a majority of the radio and other communication equipment purchases and installation. Structural loading analyses for both radio and fiber optic systems were completed in FY 2009. The first construction year for the Spectrum Relocation Fund was during FY 2008 with the beginning of building replacement installations. The replacement of 2 GHz radio systems is nearing completion with just two site projects remaining to be completed in FY 2017. System clean-up, which includes removal of old equipment, buildings, and all associated sub-systems, is also anticipated to continue into FY 2017. WAPA anticipates returning approximately $19 million received in excess of actual relocation costs to the SRF. No appropriations are being requested for this activity.

Capitalized Movable Equipment

The majority of these funds will be used to purchase and lease the fleet of standard and specialized vehicles required for WAPA's O&M activities. Although WAPA prefers to lease its vehicles from the U.S. General Services Administration (GSA), GSA cannot always provide the necessary specialized vehicles, especially in the Upper Great Plains Region and the Desert Southwest Region, where they must be equipped for extreme weather and terrain conditions. In these instances, WAPA is forced to purchase its specialized vehicles. All sedans, vans, SUVs, and light trucks are leased from GSA. WAPA uses over 700 vehicles, of which 59 percent are leased from GSA. WAPA replaces government-owned vehicles according to the Federal Management Regulations guidelines, the same guidelines used by GSA. Other capitalized movable equipment in this estimate includes substation test equipment, brush chipper, and map board replacement; security equipment such as perimeter intrusion detection devices, card readers and associated software, and security cameras and recording devices at various sites throughout WAPA's service area; information technology equipment such as server and router replacements, firewalls, cyber security upgrades, encryptors for the operation offices, LAN upgrades, network equipment replacements, storage upgrades, upgrades to WAPA's power system simulator equipment for training purposes, and auto-CAD workstation replacements; and helicopter equipment replacements that add value to the helicopter or extend the service life, such as engine, rotor blades, avionics, airframe, and other major components.

Activities and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Operation and Maintenance $80,901,000	**$72,407,000**	**-$8,494,000**
Regular O&M ($40,188,000) The continuing maintenance of WAPA's transmission system at or above industry standards supports DOE and WAPA missions by minimizing sudden failure, unplanned outages, and possible regional power system disruptions. Safe working procedures are discussed before work begins to optimize safety for the public, WAPA's staff, and equipment. The request is based on projected work plans for activities funded from this account. Estimates are based on historical data of actual supplies needed to operate and maintain the transmission system and recent procurement of similar items. This request also includes approximately $472,000 for appropriated O&M annual expenses that are required to fund WAPA's Salinity and Levee non-reimbursable power systems. The request includes approximately $1,314,000 for activities in the Boulder Canyon Project, funded directly through receipts from the Colorado River Dam.	*Regular O&M ($33,291,000)* • Requested funding is to continue the ongoing activities of maintaining WAPA's transmission system. This request also includes approximately $143,000 for appropriated O&M annual expenses that are required to fund WAPA's Salinity and Levee non-reimbursable power systems. The request includes approximately $1,580,000 for activities in the Boulder Canyon Project, funded directly through receipts from the Colorado River Dam.	*Regular O&M (-$6,897,000)* • The decrease in regular O&M is attributed to a reduction in annual expense requirements for vegetation management, revenue meter replacements, LIDAR as-built-studies, and access road repairs. These estimates are attained by reviewing maintenance schedules and are offset slightly by inflationary factors.
Replacements and Additions ($40,713,000) Replacement needs are based on age, reliability, and safety of equipment, customer-coordinated review, cost analysis of rebuild versus replacement, availability of replacement parts, and obsolescence of diagnostic maintenance tools. Estimates are determined using actual costs of similar items.	*Replacements and Additions ($39,116,000)* • Requested funding is to continue ongoing efforts.	*Replacements and Additions (-$1,597,000)* • The decrease in Replacement and Additions follows WAPA's maintenance schedule and is primarily attributable to a decrease in transmission line and moveable capital equipment purchases.

Construction and Rehabilitation
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Construction and Rehabilitation				
Transmission Lines and Terminal Facilities	38,425	---	30,512	-7,913
Substations	19,298	---	16,911	-2,387
Other	651	---	4,849	+4,198
Subtotal, Construction and Rehabilitation	**58,374**	**---**	**52,272**	**-6,102**
Alternative Financing	-53,585	---	-40,500	+13,085
Total, Construction and Rehabilitation	**4,789**	**16,171**	**11,772**	**+6,983**

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Construction, Rehabilitation, Operation and Maintenance
Construction and Rehabilitation

Description
The Construction and Rehabilitation (C&R) subprogram supports WAPA's mission to deliver reliable, clean Federal hydroelectric power by emphasizing continued reliability, improved connectivity, and increased flexibility and capability to the power grid.

Financing of the FY 2018 C&R budget, planned at $52.3 million, will continue to rely heavily on voluntary stakeholder participation in alternative methods for capital financing. Approximately 77.5 percent of the program funding, or $40.5 million, will be required from stakeholders, requiring significant partnering efforts.

WAPA has initiated a formalized asset management program to capture data uniformly and systematically on condition, consequences of failure data, and other relevant asset information. The improvements to WAPA's current asset management practices include stronger, more objective data driven evidence, risk-informed priority and decision making, and greater transparency to stakeholders in the allocation of limited resources.

The request incorporates the most current information to identify and schedule necessary C&R projects. WAPA assigns priority to those situations that pose the highest risk to safety and system reliability, while meeting the mandates for open access to our transmission system. When conditions change, WAPA shifts funding as necessary to ensure the highest program priorities continue to be met to maintain the reliability and integrity of WAPA's power transmission system.

All replacement and rehabilitation plans are coordinated with stakeholders to help establish the timing and scope of work at specific substations. When upgrades or additional capacity are required, WAPA actively pursues partnering with neighboring utilities to jointly finance activities, resulting in cost savings and increased efficiencies for participants.

Unless otherwise provided by law, all C&R costs are recovered from ratepayers with interest over the useful life of the asset providing a revenue stream to the U.S. Treasury. In rare cases, where a C&R project is abandoned, costs are still recovered, but may be expensed.

The budget request includes a proposal to authorize the Federal government to sell the transmission assets of WAPA.

Transmission Lines and Terminal Facilities
For FY 2018, there is continued focus on replacement and upgrade of deteriorating and inadequate infrastructure across WAPA's service area using non-appropriated alternative financing, with increasing emphasis on deteriorating transmission lines in the Parker-Davis systems in Arizona. In addition, activities are underway to address voltage support problems in the Colorado front-range, impacts of growing loads in the Pick-Sloan Missouri Basin service territory, and reliability or compliance concerns in northern California.

Substations
WAPA owns and operates more than 300 substations across its 15-state service territory. As substation equipment (such as power transformers, circuit breakers, and control equipment) ages, maintenance costs increase, replacement parts become unavailable, risk of outages increases, and system reliability declines. This activity funds the construction, replacement, or upgrade of the substations and its components necessary to sustain reliable power delivery and support a stable, flexible interconnected power grid.

Other
The Other category includes C&R activities not otherwise included in the Substations or Transmission Lines and Terminal Facilities categories. These include communication system equipment and other miscellaneous projects covering items like construction or major rehabilitation of maintenance facilities, access roads, and facility decommissioning and removal costs.

Construction and Rehabilitation

Activities and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Construction and Rehabilitation $58,374,000	**$52,272,000**	**-$6,102,000**
Transmission Lines and Terminal Facilities $38,425,000	**$30,512,000**	**-$7,913,000**

Continuing Work ($32,838,000)
• Continue rehabilitation and construction required on WAPA's transmission lines and terminal facilities to cost-effectively market and deliver Federal hydropower and promote a strong record of reliability and safety.
• No appropriations provided for this activity.
• Alternative financing ($32,838,000) sought for the following projects:
  • Blythe-Parker (Headgate Rock) (CA/AZ) transmission line rebuild to improve reliability, safety, accessibility and transmission system communications along the deteriorating 52-mile transmission line
  • Cottonwood-Olinda (CA) 9-mile double circuit transmission line re-conductor to strengthen NERC compliance, increase transfer capability, and improve maintenance and operational flexibility
  • Estes-Flatiron (CO) transmission line rebuild to improve reliability and accessibility of the deteriorating 17-mile transmission line
	Continuing Work($16,296,000)
	• Continue rehabilitation and construction required on WAPA's transmission lines and terminal facilities to cost-effectively market and deliver Federal hydropower and promote a strong record of reliability and safety.
	• No appropriations provided for this activity.
	• Alternative financing ($16,296,000) sought for the following projects:
	  • Estes-Flatiron (CO) transmission line rebuild to improve reliability and accessibility of the deteriorating 17-mile transmission line serving the city of Estes Park, CO
	  • Gila-Knob (AZ) 161-kV transmission line re-route of 2-mile segment in advance of neighboring utility 500-kV transmission line build
	  • Keswick-Airport and Airport-Cottonwood (CA) 230-kV transmission line reconductoring to increase transfer capacity and improve maintenance flexibility on 20.15-miles of existing single circuit line
		Continuing Work (-$16,542,000)
		• Although the number of continuing work projects remains steady, the financing required decreases as larger projects are expected to come to a close.

Rehabilitation Starts ($5,587,000) • Address additional system reliability risk and operational problems. • No appropriations requested for project starts in FY 2016. • Alternative financing ($5,587,000) sought for the following projects:	*Rehabilitation Starts ($14,216,000)* • Address additional system reliability risk and operational problems. • Appropriations ($6,236,000) are requested for critical project starts in FY 2018. • Big George-North Cody 115-kV conversion project will provide additional 115-kV source	*Rehabilitation Starts (+$8,629,000)* • The increase reflects transmission system investment requirements in Wyoming, California, and Arizona to address reliability and capacity needs.

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
• Miscellaneous Facility Rating Mitigation Projects (AZ) to meet NERC compliance requirements, secure line capacity ratings, and improve reliability and safety of the Parker-Davis transmission system • Keswick-Airport-Cottonwood (CA) transmission line re-conductor project to strengthen NERC compliance, increase transfer capability, and improve maintenance and operational flexibility • Sidney-Pietz-Sterling (CO/NE) transmission line rebuild and re-conductor to improve reliability, upgrade the transfer capability of the 60-year, 39-mile line and avoid estimated loss of $1.5 million annually	into the Big Horn Basin area (WY), eliminating risk of voltage and thermal violations as well as risk of extended outage due to transformer failure • Alternative financing ($7,980,000) sought for the following projects: • Cottonwood-Olinda (CA) substation rating upgrade to replace relays and modify settings on both lines to increase capacity and transfer capability as well as increase operational and maintenance flexibility. • South of Parker (AZ) high priority projects will increase reliability of service, reduce maintenance costs, provide a method to accommodate outage needs, and increase capacity on eleven prioritized transmission line segments.	
Substations $19,298,000	**$16,911,000**	**-$2,387,000**
Continuing Work ($14,258,000) • Continue construction, modification, and rehabilitation of WAPA's substations to ensure power system reliability and stability. • Appropriations ($1,895,000), targeted for two of WAPA's most critical reliability risks, provide for the following activities: • New Underwood (SD) Substation transformer replacement to improve reliability of the 50-year, undersized transformer and avoid load shedding and overloading risks for the Rapid City, ND area • Sioux City (IA) 2 Substation reactor replacement and bus modifications required due to deteriorating conditions, catastrophic	*Continuing Work ($1,824,000)* • Continue construction, modification, and rehabilitation of WAPA's substations to ensure power system reliability and stability. • No appropriations provided for this activity. • Alternative financing ($1,824,000) sought for the following projects: • Devil's Lake Substation (ND) transformer replacement due to age (60+ years) and deteriorating conditions which could result in catastrophic failure, reliability, and customer outages • Gila Substation (AZ) 69-kV yard rebuild to improve reliability and safety of deteriorating facilities, and reduce rising maintenance costs and outage risk impacting the Parker-Davis,	*Continuing Work (-$12,434,000)* • The net decrease in continuing substation investment reflects prior year projects moving to completion stage.

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016

failure of sibling reactors, and criticality of the facility
• Alternative financing ($12,363,000) sought for the following activities:
  • Fargo (ND) Substation transformers replacement due to age, condition, and increased risk of overloading
  • Gila (AZ) Substation 230-kV yard rebuild to eliminate reliability, safety, and environmental hazards at the aging facility
  • Grand Island (NE) Substation transformer replacement to improve reliability due to poor condition, obsolescence, and environmental risks of existing transformer
  • Medicine Bow (WY) control building replacement to correct code violations, improve safety and reliability, and update control and communications equipment
	Salinity Control Project, and Colorado River Front Work and Levee system
	• Tucson (AZ) Substation rebuild to improve reliability and safety due to condition and obsolescence of the equipment and reduce environmental risks of legacy underground oil system at the 60-year-old facility	

Rehabilitation Starts ($5,040,000)

- Address additional system reliability risk and operational problems.
- Appropriations ($2,894,000) provide for the following activities:
  - Brookings Substation (SD) upgrade to improve reliability of power delivery under fault conditions and resolve heavy flooding conditions in existing control building; upgrade includes breaker, switching, control board, control building replacement and bus re-configuration
  - Groton South (SD) Substation construction to provide greater reliability and prevent low voltage impacting the city of Aberdeen, SD during system faults
- Alternative financing ($2,146,000) sought for the following activities:
  - Jamestown (ND) Control Panel and Control Building replacement including associated protection and communication equipment to improve reliability and safety
  - Tucson (AZ) Substation rebuild to improve reliability and safety due to condition and obsolescence of the equipment and reduce environmental risks of legacy underground oil system at the 60-year-old facility

Rehabilitation Starts ($15,087,000)

- Address additional system reliability risk and operational problems.
- Appropriations ($5,536,000) provide for the following activities:
  - Badwater Substation (WY) installation of 230-kV shunt reactors to mitigate system and equipment exposure to high voltages
  - Mead Substation (State 17) (NV) replacement of 48-year old transformer due to deteriorating external and internal conditions which pose a risk for shut down or failure
- Alternative financing ($9,551,000) sought for the following activities:
  - Dos Amigos (CA) switchyard reconfiguration, replace oil circuit breakers and relays, and construct a new control building to provide greater system reliability and provide for future expansion
  - Fargo Substation (ND) control panel replacement for 115-kV and lower voltage equipment to improve reliability and maintenance
  - Folsom Substation (CA) transformer installation to eliminate a single point of failure and provide operation and maintenance flexibility
  - Keswick, Airport, and Cottonwood substations (CA) rating upgrades to improve capacity and operational and maintenance flexibility
  - Mount Vernon Substation (SD) transformer and oil breaker replacement due to age and deteriorating conditions which could result in reliability and outage conditions as well as environmental impacts

Rehabilitation Starts (+$10,047,000)

- The net increase reflects investments in replacing aging and deteriorating equipment and facilities to provide for system reliability, increased capacity, and future expansion.

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
	• Sioux City 2 Substation (IA) transformer replacement is needed due to deteriorating conditions creating an environmental hazard and will provide for increased reliability and load growth	

Other $651,000	$4,849,000	+$4,198,000

Communication Systems ($351,000)
• No Appropriations ($0) requested
• Alternative financing ($351,000) sought for continued communication system improvements for the Pick-Sloan Missouri Basin Program
	Communication Systems ($963,000)
	• No Appropriations ($0) requested
	• Alternative financing ($963,000) sought for the following activities:
	  • Crossman Peak microwave facility to increase reliability of service on the WAPA microwave backbone from Phoenix to the Hoover substation in AZ
	  • Replacement of existing overhead ground wire with optical fiber ground wire for continued system improvements for the Pick-Sloan Missouri Basin Program
		Communication Systems (+$612,000)
		• Increase reflects planned communication system investments.

Miscellaneous ($300,000)
• No Appropriations ($0) requested
• Alternative financing ($300,000) sought for the following activities:
  • Continues Power facility development program to support reliability, safety, and cost effectiveness of WAPA's capital investments through access to industry best practices, system design approaches, and state-of–the-art technologies
	Miscellaneous ($3,886,000)
	• No Appropriations ($0) requested
	• Alternative financing ($3,886,000) sought for the following activities:
	  • Substation service upgrades at eight substations in CA to mitigate safety hazards and increase reliability
	  • Replace Fort Thompson crew quarters and garage (SD) with new building to provide adequate facilities for crew and housing for equipment
	  • Replace Sioux Falls (SD) maintenance building (+60 years old) with new building for crew, shop, vehicles, and equipment/materials storage
	  • Improvements to West Fargo (ND) line crew building (add insulation, replace garage doors and roof)
		Miscellaneous (+$3,586,000)
		• Increase reflects investment in facility improvements to support reliability and safety.

Purchase Power and Wheeling
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Purchase Power and Wheeling				
Central Valley	326,642	---	347,814	+21,172
Pick-Sloan Missouri Basin and other Programs	239,285	---	250,183	+10,898
Subtotal, Purchase Power and Wheeling	**565,927**	**---**	**597,997**	**+32,070**
Alternative Financing Needed	-213,114	---	-289,072	-75,958
Offsetting Collections	-352,813	-352,142	-308,925	+43,888
Total, Purchase Power and Wheeling (New Budget Authority)	**0**	**0**	**0**	**0**

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Construction, Rehabilitation, Operation & Mainenance
Purchase Power and Wheeling

Description
The Purchase Power and Wheeling subprogram continues to support WAPA's marketing efforts and delivery capability which spans a 1.3 million square mile area serving a diverse group of several hundred wholesale customers, including municipalities, cooperatives, public utility and irrigation districts, Federal and state agencies, and Native American tribes. No appropriated budget authority is necessary.

Central Valley Project
WAPA continues to deliver on its contractual power commitments to customers under the Central Valley Project's Post 2004 Marketing Plan. The budget request assumes current full load service customers will continue to choose service from WAPA through "Custom Product" contractual agreements. WAPA also purchases power to support variable resource customers on a pass-thru basis. If project net generation is not sufficient, WAPA may also purchase power to support project use load, First Preference Customer load, and sub-control area reserve requirements. As part of the Order 741, FERC promulgated guidance requiring RTO/ISOs to take physical title/ownership to the energy bought/sold in their respective markets, making it necessary for WAPA to acknowledge that customers receive the financial, and not the physical benefit of their Federal power allocations.

Pick-Sloan Missouri Basin and Other Programs
The budget request continues to support long-term firm power commitments to customers of the eastern and western divisions of the Pick-Sloan Missouri Basin Program, the Fryingpan-Arkansas Project, and the Parker-Davis Project commensurate with the levels of average firm hydroelectric energy marketed by WAPA. The request also provides transmission support for the Pacific Northwest-Southwest Intertie Project. The total program estimates shown are based primarily on market pricing of short term firm energy, negotiated transmission rates, and WAPA and generating agency's forecasts.

Activities and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Central Valley Project		
Program Requirements ($326,642,000) • The Purchase Power and Wheeling subprogram supports WAPA's power marketing effort by providing for power purchases to firm the variable hydropower resource and securing transmission services as necessary to meet its contractual power delivery obligations.	*Program Requirements ($347,814,000)* • The Purchase Power and Wheeling subprogram continues to support WAPA's power marketing effort by providing for power purchases to firm the variable hydropower resource and securing transmission services as necessary to meet its contractual power delivery.	*Program Requirements (+$21,172,000)* • Increases associated with California Independent System Operator and other utility transmission services. Increase is primarily in offsetting collections. Amounts are for offsetting collection authority and alternative financing; no direct appropriations are requested for this activity.
Alternative Financing (-$164,521,000) • Contractual arrangements made with customers provide opportunities for alternative financing of the purchase power requirements. Alternative financing methods include net billing, bill crediting, energy exchanges, and direct customer funding.	*Alternative Financing (-$161,667,000)* • Contractual arrangements made with customers provide opportunities for alternative financing of the purchase power requirements. Alternative financing methods include net billing, bill crediting, energy exchanges, and direct customer funding.	*Alternative Financing (+$2,854,000)* • Amounts are for alternative financing. The decrease is due to reduced cost of purchases for DOE labs.
Pick-Sloan Missouri Basin		
Program Requirements ($239,285,000) • The Purchase Power and Wheeling subprogram continues to support WAPA's power marketing effort by providing for power purchases to firm the variable hydropower resource and securing transmission services as necessary to meet its contractual power delivery obligations.	*Program Requirements ($250,183,000)* • The Purchase Power and Wheeling subprogram continues to support WAPA's power marketing effort by providing for power purchases to firm the variable hydropower resource and securing transmission services as necessary to meet its contractual power delivery.	*Program Requirements (+$10,898,000)* • Increase in purchase power requirement is due to higher estimates for Pick Sloan. Amounts are for offsetting collection authority and alternative financing; no direct appropriations are requested for this activity.

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Alternative Financing (-$48,593,000) • Alternative financing methods negotiated with customers provide an offset to the total program receipt financing requirement. Alternative financing methods include net billing, bill crediting, energy exchanges, and direct customer funding.	*Alternative Financing (-$127,405,000)* • Contractual arrangements made with customers provide opportunities for alternative financing of the purchase power requirements. Alternative financing methods include net billing, bill crediting, energy exchanges, and direct customer funding.	*Alternative Financing (-$78,812,000)* • Alternative financing increases with WAPA's participation in the Southwest Power pool.

Program Direction

Overview

WAPA's Program Direction subprogram provides compensation and all related expenses for its workforce, including those employees that operate and maintain WAPA's high-voltage interconnected transmission system and associated facilities; those that plan, design, and supervise the construction of replacements, upgrades and additions (capital investments) to the transmission facilities; those that market the power and energy produced to repay annual expenses and capital investment; and those that administratively support these functions.

The Program Direction subprogram supports WAPA's mission. To attain reliability performance, dispatchers match generation to load minute-by-minute to meet or exceed performance levels established by the North American Electric Reliability Corporation (NERC). Energy schedulers maximize revenues from non-firm energy sales and power rates are reviewed and adjusted to support repayment of the Federal investment. WAPA trains its employees on a continuing basis in occupational safety and health regulations, policies and procedures, and conducts safety meetings at employee, supervisory and management levels to keep the safety culture strong. Accidents are reviewed to ensure lessons are learned and proper work protocol is in place.

The Program Direction subprogram further supports WAPA's Human Capital Management (HCM) Workforce Plan, which includes the following activities: exploring ways to increase Human Resource efficiency through consolidation; the development and/or expansion of intern/apprenticeship programs in the occupations of energy marketing, dispatcher, lineman, and electrician; introduction of an under-study program in Power Marketing, prior to an incumbent retiring; rotational training programs for engineers; strategic use of knowledge sharing and training events in critical occupations; and, succession planning development programs for mid- to upper-level graded Federal positions. By design, costs for these HCM programs will be minimal as local area expertise and facilities are used to the maximum extent possible. The HCM Workforce Plan noted that no new OMB Circular No. A-76 studies were required and/or anticipated at this time.

In consultation with its customers, WAPA reviews required replacements and upgrades to its existing infrastructure to sustain reliable power delivery to its customers and to contain annual maintenance expenses. WAPA pursues opportunities to join with neighboring utilities to jointly finance activities, which avoid redundant facilities and result in realized cost savings and/or increased efficiencies for all participants.

Highlights of the FY 2018 Budget Request

The FY 2018 request provides for the continuation of WAPA's CROM account activities related to Program Direction at the level necessary to meet mission requirements. The account reflects an increase of 71 FTE from FY 2016, of which 19 FTE are cyclical shifts between CROM and the CRBPMF accounts. The remaining 52 FTE are new positions for WAPA mission work. The funding for these FTE are primarily offset by an increase to reimbursable funded FTE.

Program Direction
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Program Direction				
Salaries and Benefits	150,874	---	163,600	+12,726
Travel	11,219	---	10,516	-703
Support Services	30,777	---	27,563	-3,214
Other Related Expenses	43,528	---	34,043	-9,485
Total, Program Direction	**236,398**	**---**	**235,722**	**-676**
Use of Alternative Financing	-5,273	---	-8,056	-2,783
Use of Receipts from Colorado River Dam Fund	-6,030	---	-7,726	-1,696
Offsetting Collections, Other Expenses	-177,697	-177,359	-150,392	+27,305
Use of Prior Year Balances	0	---	-27,548	-27,548
Total, Program Direction	**47,398**	**34,996**	**42,000**	**-5,398**
Federal FTEs	**1,151**	**---**	**1,222**	**+71**
Support Services				
Technical Support				
Economic and Environmental Analysis	2,959	---	7,686	+4,727
Total, Technical Support	**2,959**	**---**	**7,686**	**+4,727**
Management Support				
Automated Data Processing	13,916	---	9,233	-4,683
Training and Education	1,572	---	1,964	+392
Reports and Analyses Management and General Administrative Support	12,330	---	8,680	-3,650
Total Management Support	**27,818**	**---**	**19,877**	**-7,941**
Total, Support Services	**30,777**		**27,563**	**-3,214**
Other Related Expenses				
Rent to GSA	2,760	---	1,757	-1,003
Communication, Utilities, Misc.	5,291	---	5,754	+463

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Printing and Reproduction	59	---	143	+84
Other Services	24,748	---	12,572	-12,176
Training	51	---	18	-33
Purchases from Gov. Accounts	848	---	949	+101
Operation and Maintenance of Equipment	876	---	4,301	+3,425
Supplies and Materials	4,066	---	3,186	-880
Equipment	2,398	---	3,080	+682
Working Capital Fund	2,431	---	2,283	-148
Total, Other Related Expenses	**43,528**	**---**	**34,043**	**-9,485**

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Activities and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Program Direction $236,398,000	**$235,722,000**	**-$676,000**
Salaries and Benefits $150,874,000	**Salaries and Benefits $163,600,000**	**Salaries and Benefits +$12,726,000**
• Salary and benefits provide for Federal employees who construct and replace, operate and maintain, on a continuing basis, WAPA's high-voltage interconnected transmission system. Salary and benefits funds those FTEs assigned to this account, including those salaries determined through negotiations.	• Requested funding supports ongoing activities.	• The increase to salary and benefits is to support the related escalation factors for those FTE funded through this account. The increase is required to support mission related O&M and C&R program direction activities within the CROM account. This increase of 71 FTE includes 52 FTE requested in FY 2017 and a cyclical shift of 19 FTE within target from the CRBPMF, primarily for routine scheduled maintenance activities. The budget impact for the new CROM FTE are offset by an increase to reimbursable funded FTE for work sponsored by WAPA's customers. WAPA programmatically budgeted for 64 additional FTE in reimbursable activity, and -13 FTE less in CROM program funding. The new 52 FTE requested in FY 2017 are defined by the following functions: IT Specialists to operate WAPA's SCADA system (+3); IT Specialists to support WAPA's Cyber Security Program and various IT initiatives (+6); Physical Security Specialists to assist in monitoring and mitigating risks to WAPA's physical assets (+7); Power System Dispatchers and Operation Engineers to manage Real Time Desk Operations due to increasing NERC requirements which include real time assessments every 30 minutes (+19); Ops/Dispatcher to coordinate regional outages (+1); Asset Management Specialists responsible for developing and implementing asset/life cycle

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
		management strategies, plans, policies, and business case evaluations (+4); Archaeologists required to provide review on increasing applicant interconnections requests for generation projects and transmission lines (+3); Maintenance Management Specialist (+1); Electrical Engineers (+2); Public Utility Specialists (+3); Financial Policy Analyst (+1); Performance Management Analyst (+1); and a Supervisory Auditor (+1). These positions are critical to WAPA's mission activities.
Travel $11,219,000	**Travel $10,516,000**	**Travel -$703,000**
• Planned essential travel supports WAPA's mission-related operation and maintenance activities. In support of OMB Memorandum M-12-12 Promoting Efficient Spending to Support Agency Operations, WAPA is reducing its travel by limiting travel associated with general agency operations, administrative training, and conferences. Also, WAPA will strive to find alternatives to attain required training by means other than by traveling.	• Requested funding supports ongoing activities.	• The slight decrease in travel supports WAPA's efforts to continually increase video conferencing to lessen travel requirements. This decrease is slightly offset by inflationary factors.
Support Services $30,777,000	**Support Services $27,563,000**	**Support Services -$3,214,000**
• Support Services funded in this category include information processing, warehousing, job related training and education, engineering, miscellaneous advisory and assistance services, and general administrative support.	• Requested funding supports ongoing activities.	• Decreases to this activity are primarily driven by planned IT and general administrative service support. These decreases are partially offset by an increase to engineering and technical support and a slight increase in job-related training requirements.
Other Related Expenses $43,528,000	**Other Related Expenses $34,043,000**	**Other Related Expenses -$9,485,000**
• Other related expenses include rental space, utilities, supplies and materials, telecommunications, computers, printing	• Requested funding supports ongoing activities.	• The decrease to this activity is primarily attributable to a decrease in contractual services such as support for WAPA's Integrated

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
and reproduction, training tuition, and DOE's working capital fund distribution. Rental space costs assume the GSA inflation factor. Other costs are based on historical usage and actual cost of similar items.		Vegetation Management Program, as well as a decrease in contractual requirements for inspections. GSA rental space is also decreasing, as does the distribution of DOE's Working Capital Fund to this account. These decreases are partially offset by an increase to utilities. Utilities are increasing due to inflationary factors and a renegotiation of the GSA space lease agreement whereby WAPA will pay for utilities directly and not through the lease agreement. Other increases offsetting the decreases within this activity include purchases from other government accounts and the maintenance of office equipment. Other increases are inflationary.

Falcon and Amistad Operating and Maintenance Fund
($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request
Gross	4,950	---	5,048
Offsets	-4,722	---	-4,820
Net BA	**228**	**228**	**228**

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Overview

The Falcon and Amistad Operating and Maintenance fund (Maintenance Fund) was established in the Treasury of the United States as directed by the Foreign Relations Authorization Act, FYs 1994 and 1995. The Maintenance Fund is administered by WAPA's Administrator for use by the Commissioner of the U. S. Section of the International Boundary and Water Commission (IBWC) to defray administrative, O&M, replacement, and emergency costs for the hydroelectric facilities at the Falcon and Amistad Dams. IBWC owns and operates the U.S. portion of the projects, and Federal staff funded under this program continues to be allocated to the U.S. Section of IBWC by the Department of State. The Falcon and Amistad project supports WAPA's program goals by providing power to rural electric cooperatives through WAPA. With the exception of monies received from the Government of Mexico, all revenues collected from the sale of electric power generated at the Falcon and Amistad Dams are credited to the Maintenance Fund. Monies received from the Government of Mexico are credited to the General Fund of the U.S. Treasury. Revenues collected in excess of operating expenses are used to repay, with interest, the cost of replacements and original investments. Full funding will support 24-hour/day operation and maintenance of the two power plants to ensure response to ever-changing water conditions, customer demand, and continual coordination with operating personnel of the Government of Mexico.

Highlights of the FY 2018 Budget Request

In FY 2018, WAPA's request has been formulated to meet its power marketing and contractual power delivery obligations with continued high marks for reliability. Revenues collected from customers to recover the costs of the Federal Power Program will be sufficient to provide for WAPA's FY 2018 planned expenses for the power plants in the IBWC. The FY 2018 request allows for U.S. Customer(s) of the Falcon and Amistad Dams to contribute funds for use by the IBWC in fulfilling their duties in accordance with agreements between WAPA, IBWC, and the power customers. This will allow work to be accomplished using customer advances/alternative financing, a funding mechanism used throughout WAPA under the Contributed Funds Act, 43 USC 395. The customer contributed funds is planned to predominantly assist in capitalized replacement projects.

Falcon and Amistad Operating and Maintenance Fund
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Western Area Power Administration				
Falcon and Amistad Operating and Maintenance Fund	4,950	---	5,048	+98
Subtotal, Falcon and Amistad Operating and Maintenance Fund	**4,950**	**---**	**5,048**	**+98**
Offsetting Collections	-4,262	-4,254	-3,948	+314
Alternative Financing	-460	---	-872	-412
Total, Falcon and Amistad Operating and Maintenance Fund	**228**	**228**	**228**	**0**

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Falcon and Amistad Operating and Maintenance Fund

Description

The Falcon and Amistad Project consists of two international dams located on the Rio Grande River between Texas and Mexico. The United States and Mexico operate separate power plants on each side of the Rio Grande River. The Operating and Maintenance Fund was established in the Treasury of the United States and is administered by WAPA's Administrator for use by the Commissioner of the U.S. Section of the IBWC to defray administrative, O&M, replacement, and emergency costs for the hydroelectric facilities at the Falcon and Amistad Dams.

Salaries and Benefits

This activity funds salaries and benefits for the 40 positions of the U.S. Section of the IBWC who operate and maintain the two power plants on a 24-hour/day basis, including planned maintenance activities, required safety services, and emergency response to flood operations and/or equipment failure.

Routine Services

This activity funds routine services such as inspection and service of the HVAC and air compressor system, fire suppression systems, elevators, self-contained breathing apparatus, recharge and hydro-testing of fire extinguishers, calibration of test equipment, rebuild of electric motors, and repair of obsolete equipment when replacement parts are no longer available.

Miscellaneous Expenses

This activity funds travel, training, communications, utilities, printing, and office supplies and materials for the IBWC employees and technical advisors. The request includes essential training for employees to comply with standards of the Interagency Commission on Dam Safety, Occupational and Health Administration, and the National Dam Safety Act.

Marketing, Contract, Repayment Studies

This activity funds interest payments to the U.S. Treasury. Estimates are based on Power Repayment Studies for the Projects funded in this account. This activity funds power marketing, administration of power contracts, and preparation of rate and repayment studies. Based on accurate studies, staff ensures power revenues are set at an appropriate level to recover annual expenses and meet repayment schedules.

Falcon and Amistad Operating and Maintenance Fund

Activities and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Falcon and Amistad Operating and Maintenance Fund $4,950,000	**$5,048,000**	**+$98,000**
Salaries and Benefits ($3,030,000) • This activity funds the salaries and benefits for those employees assigned to the U.S. Section of the IBWC who operate and maintain the two power plants.	*Salaries and Benefits ($3,131,000)* • Requested funding supports ongoing activities.	*Salaries and Benefits (+$101,000)* • The increase in salaries and benefits is primarily due to inflationary factors.
Routine Services ($1,625,000) • This activity funds routine services such as equipment inspections and maintenance services.	*Routine Services ($1,544,000)* • Requested funding supports ongoing activities.	*Routine Services (-$81,000)* • The decrease is primarily due to the completion of replacement/upgrade projects at the Amistad power plant (excitation system, replacement of trip units and refurbishment of breakers, corrosion prevention, and redesign of new sewage ejector system).
Miscellaneous Expenses ($275,000) • This activity funds travel, training, communications, utilities, printing, and office supplies and materials for the IBWC employees and technical advisors.	*Miscellaneous Expenses ($338,000)* • Requested funding supports ongoing activities.	*Miscellaneous Expenses (+$63,000)* • The net increase in miscellaneous expenses is primarily due to increased costs for travel, communications, and utilities, as well as inflationary increases.
Marketing, Contracts, Repayment Studies ($20,000) • This activity funds interest payments to the U.S. Treasury, power marketing, administration of power contracts, and preparation of rate and repayment studies.	*Marketing, Contracts, Repayment Studies ($35,000)* • Requested funding supports ongoing activities.	*Marketing, Contracts, Repayment Studies (+$15,000)* • The increase is due to legal counsel and administrative costs for contract administration and inflationary factors.

Colorado River Basins Power Marketing Fund
($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request
Gross	215,647	---	185,396
Offsets	-238,647	---	-208,396
Net BA	**-23,000**	**-23,000**	**-23,000**

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Overview

WAPA operates and maintains the transmission system for the projects funded in this account to ensure an adequate supply of reliable electric power in a clean and environmentally safe, cost-effective manner. The Colorado River Basins Power Marketing Fund Program (CRBPMF) is comprised of three power systems: the Colorado River Storage Project, including the Dolores and Seedskadee Projects; the Fort Peck Project; and the Colorado River Basin Project. WAPA is responsible for construction, maintenance, and operation of facilities for transmitting and marketing the electrical energy generated in these power systems.

Highlights of the FY 2018 Budget Request

In FY 2018, WAPA's request has been formulated to meet its power marketing and contractual power delivery obligations with continued high marks for reliability. Revenues collected from customers to recover the costs of the Federal Power Program will be sufficient to provide for WAPA's FY 2018 planned expenses for the power systems in the CRBPMF. The budget request includes a proposal to authorize the Federal government to sell the transmission assets of WAPA.

Colorado River Basins Power Marketing Fund
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Colorado River Basins Power Marketing Fund				
Equipment, Contracts and Related Expenses				
Supplies, Materials and Services	23,017	---	21,300	-1,717
Purchase Power Costs	107,140	---	93,715	-13,425
Capitalized Equipment	13,963	---	8,040	-5,923
Interest/Transfers	9,720	---	4,000	-5,720
Total, Equipment, Contracts and Related Expenses	**153,840**	**---**	**127,055**	**-26,785**
Program Direction	**61,807**	**---**	**58,341**	**-3,466**
Total, Operating Expenses from new authority	**215,647**	**---**	**185,396**	**-30,251**
Offsetting Collections Realized	-238,647	---	-208,396	+30,251
Total, Obligational Authority	**-23,000**	**-23,000**	**-23,000**	**0**

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Colorado River Basins Power Marketing Fund
Equipment, Contracts and Related Expenses

Description

WAPA's equipment, contracts and related expenses are necessary to operate and maintain this activity. Revenues from the sale of electric energy, capacity, and transmission services replenish the fund and are available for expenditure for operation, maintenance, power billing and collection, program direction, purchase power and wheeling, interest, emergencies, and other power marketing expenses.

Supplies, Materials and Services

This activity funds the procurement of supplies, materials, and services necessary to respond to routine and emergency situations in the transmission system, and the continuation of reimbursements to the U.S. Army Corps of Engineers for operation and maintenance of the Fort Peck Power Plant. Estimates are based on recent actual costs for supplies needed to maintain transmission system reliability.

Purchase Power Costs

This activity funds the procurement of electrical power, transmission capacity and wheeling services on the open market. The request anticipates the results of continued low-steady-flow tests conducted at Glen Canyon Dam, as required by the Glen Canyon Dam Environmental Impact Statement Record of Decision. Additionally, the request includes obligation authority to accommodate replacement power purchases for customers served by the Colorado River Storage Project. The replacement power purchases, a provision of the Salt Lake City Area Integrated Projects electric power contracts, are made at the request of power customers at times when WAPA lacks sufficient generation to meet its full contract commitment. The funds for the replacement power purchases are advanced by the requesting customers prior to the purchase.

Capitalized Equipment

This activity funds the procurement of capitalized equipment including circuit breakers, transformers, relays, switches, transmission line equipment, microwave, SCADA, and other communication and control equipment to assure reliable service to WAPA's customers. Planned communications equipment purchases include replacing existing ground wire with fiber optic ground wire and upgrading conductors. Included also is funding for the continuation of the project to replace analog microwave with fiber optic ground wire and fiber optic terminal. Cost comparisons have shown that fiber optics have a significant lower life cycle cost and higher bandwidth capacity than digital microwave.

Transmission line estimates include the purchase of poles, crossarms, conductors, fusion splicers, line switches, overhead ground wire, and hardware.

Planned substation estimates include upgrades, replacement of breakers and circuit switches, and replacement of transformers, test equipment, as well as other aged equipment at various substations. WAPA cyclically replaces older electro-mechanical relays with microprocessor relays. The microprocessor relays assist in finding faults faster in order to more efficiently restore service to customers. Other miscellaneous items required for substation replacements include surge arrestors, batteries and chargers, and monitoring equipment.

Planned movable capitalized property estimates include replacements of special purpose trucks, replacement of generators to maintain the reliability and backup power to the communications system, and replacement of outdated test and recording equipment. Other estimates include the replacement of outdated test equipment, and test equipment to troubleshoot the new digital microwave radio system. Ongoing replacement is also planned for aging information technology support systems and routers. Other requests include funding for the continuation of the SCADA Upgrade program, as well as other minor enhancements that provide for the ease of maintenance, protection of equipment and materials, and environmental compliance.

Interest/Transfers

This activity funds interest payments to the U.S. Treasury. Estimates are based on Power Repayment Studies for the Projects funded in this account.

Activities and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Equipment, Contracts and Related Expenses		
$153,840,000	**$127,055,000**	**-$26,785,000**
Supplies, Materials & Services ($23,017,000) • This activity funds the procurement of supplies, materials, and services necessary to respond to routine and emergency situations in the transmission system, and the continuation of reimbursements to the U.S. Army Corps of Engineers for operation and maintenance of the Fort Peck Power Plant.	*Supplies, Materials & Services ($21,300,000)* • Requested funding supports ongoing activities.	*Supplies, Materials & Services (-$1,717,000)* • The decrease is primarily due to scheduled purchases of supplies and expended equipment. Also decreasing slightly is contractual services for ongoing services. These decreases are offset slightly by increases for inflation.
Purchase Power Costs ($107,140,000) • This activity funds the procurement of electrical power, transmission capacity and wheeling services on the open market.	*Purchase Power Costs ($93,715,000)* • Requested funding supports ongoing activities.	*Purchase Power Costs (-$13,425,000)* • Decrease to the purchase power cost estimates are due to current requirements and consideration of anticipated favorable future water conditions.
Capitalized Equipment ($13,963,000) • This activity funds the procurement of capitalized equipment including circuit breakers, transformers, relays, switches, transmission line equipment, microwave, SCADA, and other communication and control equipment to assure reliable service to WAPA's customers.	*Capitalized Equipment ($8,040,000)* • Requested funding supports ongoing activities.	*Capitalized Equipment (-$5,923,000)* • Decrease is primarily attributable to a decrease in scheduled replacements for capitalized communication, transmission line, and substation equipment. This decrease is slightly offset by an increase in moveable capital equipment.

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Interest/Transfers ($9,720,000) • This activity funds interest payments to the U.S. Treasury. Estimates are based on Power Repayment Studies for the Projects funded in this account.	*Interest/Transfers ($4,000,000)* • Requested funding supports ongoing activities.	*Interest/Transfers (-$5,720,000)* • The decrease in interest/transfers is due to the ongoing annual principal payments made on capital repayments which decreases the interest payment.

Colorado River Basins Power Marketing Fund
Program Direction

Overview

Program Direction provides the Federal staffing resources and associated costs required to provide overall direction and execution of the Colorado River Basins Power Marketing Fund. WAPA trains its employees on a continuing basis in occupational safety and health regulations, policies and procedures, and conducts safety meetings at employee, supervisory and management levels to keep the safety culture strong. Accidents are reviewed to ensure lessons are learned and proper work protocol is in place.

Highlights of the FY 2018 Budget Request

The FY 2018 request provides for the continuation of WAPA's revolving fund activities related to Program Direction at the level necessary to meet mission requirements.

Colorado River Basins Power Marketing Fund
Program Direction
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Program Direction				
Salaries and Benefits	41,657	---	41,543	-114
Travel	3,036	---	3,093	+57
Support Services	6,576	---	5,941	-635
Other Related Expenses	10,538	---	7,764	-2,774
Total, Program Direction	**61,807**	**---**	**58,341**	**-3,466**
Federal FTEs	**301**	**---**	**280**	**-21**
Support Services				
Technical Support				
Engineering and Technical Services	0	---	1,075	+1,075
Total, Technical Support	0	---	1,075	+1,075
Management Support				
Automated Data Processing	2,144	---	2,138	-6
Training and Education	427	---	471	+44
Reports and Analyses Management and General Administrative Support	4,005	---	2,257	-1,748
Total, Management Support	**6,576**	**---**	**4,866**	**-1,710**
Total, Support Services	**6,576**		**5,941**	**-635**
Other Related Expenses				
Rent to GSA	836	---	474	-362
Communication, Utilities, Misc.	1,599	---	1,514	-85
Printing and Reproduction	12	---	28	+16
Other Services	5,580	---	2,240	-3,340
Training	7	---	27	+20
Purchases from Gov. Accounts	111	---	243	+132
Operation and Maintenance of Equipment	218	---	1,077	+859
Supplies and Materials	1,011	---	798	-213
Equipment	597	---	771	+174

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Working Capital Fund	567	---	592	+25
Total, Other Related Expenses	**10,538**	**---**	**7,764**	**-2,774**

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Colorado River Basins Power Marketing Fund
Program Direction

Activities and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Program Direction $61,807,000	**$58,341,000**	**-$3,466,000**
Salaries and Benefits $41,657,000	**Salaries and Benefits $41,543,000**	**Salaries and Benefits -$114,000**
• Salary and benefits supports a FY 2016 request level of 301 FTE. This includes General Schedule employees, as well as those salaries determined through negotiations. The transfer of 2 FTE from the CROM account is in support of the CRBPMF operation and maintenance activities and is within WAPA's FTE target. This activity provides for Federal employees who operate and maintain the Program's high-voltage integrated transmission system and associated facilities; plan, design, and supervise the replacement (capital investments) to the transmission facilities; and market the power and energy produced to repay annual expenses and capital investment.	• Requested funding supports ongoing activities.	• The decrease in salaries and benefits supports the FTE charged to this account, including salaries determined by prevailing rates in the electric utility industry. The FTE decreased is transferred to WAPA's CROM account (-19) in support of cyclical operation and maintenance activities and to the TIP account (-2) for a total request level of 280 FTE.
Travel $3,036,000	**Travel $3,093,000**	**Travel +$57,000**
• This activity funds personnel travel and per diem expenses for essential mission-related activities, including the maintenance of transmission facilities. The request includes estimates for the rent/lease of GSA vehicles and other transportation. The reduction will be achieved by limiting travel associated with general agency operations, administrative training, and conferences.	• Requested funding supports ongoing activities.	• The slight increase in travel is in support of mandatory training requirements and inflationary increases.

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Support Services $6,576,000 • Support services funded in this category include automated data processing support, warehousing, computer-aided drafting/engineering, job related training and education, and general administrative support.	**Support Services $5,941,000** • Requested funding supports ongoing activities.	**Support Services -$635,000** • The decrease is primarily driven by a decrease to administrative support and IT requirements to the activities of the revolving fund. Slightly offsetting this decrease is an increase to job-related training and engineering and technical support.
Other Related Expenses $10,538,000 • Other related expenses include, but are not limited to, DOE's working capital fund distribution, space, utilities and miscellaneous charges, printing and reproduction, training tuition, maintenance of office equipment, supplies and materials, telecommunications, and office equipment to include computers.	**Other Related Expenses $7,764,000** • Requested funding supports ongoing activities.	**Other Related Services -$2,774,000** • The decrease to this activity is primarily driven by a decrease in requirements for contractual services associated with architectural and engineering services, supplies and materials, as well as a decrease to GSA for rental space. These decreases are partially offset by increases to equipment maintenance, purchases from other government accounts, equipment purchases. Other increases are primarily inflationary.

Transmission Infrastructure Program

($K)

FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request
0	0	0

* The FY 2017 Annualized CR amounts reflect the P.L. 114-254 continuing resolution level annualized to a full year. These amounts are shown only at the congressional control level and above, below that level, a dash (-) is shown.

Overview

WAPA established the Transmission Infrastructure Program (TIP) and Office to implement Title III, Section 301 of the Hoover Power Plant Act of 1984 as amended by the American Recovery and Reinvestment Act of 2009 (Recovery Act), which provided WAPA borrowing authority of up to $3.25 billion for the purposes of: (1) constructing, financing, facilitating, planning, operating, maintaining, or studying construction of new or upgraded electric power transmission lines and related facilities with at least one terminus within the area served by WAPA; and (2) delivering or facilitating the delivery of power generated by renewable energy resources constructed or reasonably expected to be constructed after the Recovery Act's date of enactment.

TIP is an administratively self-sustaining program that relies on funding arrangements with project developers. When developers seek technical assistance, WAPA collects funds from the project developers to support development of eligible projects and to cover the overhead and administrative costs of the program. Reimbursable or Advance Funding Agreements with project developers are required prior to initiating efforts to evaluate the technical and financial merits of all potential projects to ensure the full cost of services delivered are paid by project beneficiaries. For projects that are approved for use of WAPA's borrowing authority, the authority to cover the full amount of the loan is apportioned at the outset and cash is borrowed periodically from the Department of Treasury (Treasury) as needed. The debt is repaid according to the financial agreement terms and conditions of each project.

As mandated, the TIP program is completely separate and distinct from WAPA's power marketing program.

TIP has two projects currently using the borrowing authority for a total of $116 million in loan authority obligated.

All administrative costs for TIP are offset by advanced financing and collections. WAPA is not requesting any new annual appropriated funds for TIP.

Highlights and Major Changes in the FY 2018 Budget Request

The President's budget request includes a proposal to repeal the borrowing authority managed by the TIP program. WAPA entered into an agreement with DOE's Loan Programs Office (LPO) to provide project financing services for TIP projects. This proposal to repeal the borrowing authority managed by the TIP program is in concert with the proposal in the FY 2018 Budget Request to eliminate DOE loan programs in accordance with Administration priorities. Construction and project debt estimates are based on preliminary information provided by the Project Sponsors/Proponents.

Note: Values for TIP are based on early stages of project development, forecasts of current projects, and previous estimates of future project development, which are subject to change. These estimates are to be regarded as non-binding representations that are determined by Project Sponsors/Proponents.

Transmission Infrastructure Program
Funding ($K)

	FY 2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Mandatory, Direct Budget Authority				
New Borrowing Authority	1,050,000	---	1,185,000	+135,000
Use of Collections from Projects	8,000	---	4,100	-3,900
Collections from Projects	-8,000	---	-4,100	+3,900
Total Mandatory	**1,050,000**	**---**	**1,185,000**	**+135,000**
Repayment of Borrowing Authority	-101,000	**---**	-375,000	-274,000
Federal FTEs (Mandatory)	**9**	**---**	**0**	**-9**
Discretionary, Reimbursable Budget Authority				
Program Direction	8,199	---	30,462	+22,263
Advance Funding	-2,500	---	-5,550	-3,050
Offsetting Collections	-5,699	---	-24,912	-19,213
Total Discretionary	**-**	**-**	**-**	**-**
Federal FTEs (Discretionary)	**8**	**---**	**19**	**+11**
Total, Transmission Infrastructure Program	**-**		**-**	**-**
Total, Federal FTEs	**17**	**---**	**19**	**+2**

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Activities and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Direct Budget Authority $1,050,000,000	**$1,185,000,000**	**+$135,000,000**
New Borrowing Authority $1,050,000,000	**$1,185,000,000**	**+$135,000,000**
• Estimated new projects approved for use of WAPA's borrowing authority.	• Requested funding reflects previous estimates.	• The increase is due to estimates provided by Project Sponsors/Proponents.
Collections from Projects $8,000,000	**$4,100,000**	**$-3,900,000**
• Collections in this category are from excess capacity offtake from borrowing authority funded projects.	• Requested funding supports ongoing activities.	• TIP estimates collecting $4.1 million in excess capacity from the ED5 energized line in FY 2018. These collections will all be obligated and used for costs associated with operating and maintaining those lines generating the capacity.
Repayment of Borrowing Authority -$101,000,000	**-$375,000,000**	**-$274,000,000**
• This activity represents repayments to Treasury from projects for principal.	• Requested funding reflects previous estimates.	• The increase represents the repayment of cash drawn for current projects according to the terms of each projects' lending agreement as they are anticipated to move into long term financing.

Transmission Infrastructure Program
Program Direction

Overview

WAPA's TIP Program Direction subprogram provides compensation and all related expenses for its workforce, including those employees that are directly assigned to the program as project management, technical experts, finance and administration; those that provide expertise in land acquisition, engineering and environmental compliance; those that provide legal counsel; and those that administratively support these functions.

All TIP program direction costs are fully offset by customers, either through advanced funding agreements or offsetting collections. Advanced funding is provided to TIP from project applicants who use TIP's expertise in the development of their project. The advanced funding agreements fund federal and/or contract staff working on the development of a specific project. Other sources of funds include the overhead rate applied to each active project; service charges; interest rate differentials; and the advance collection of Project Proposal and Business Plan Proposal evaluation expenses. These collections offset the costs of administering the TIP program and provide a risk mitigation reserve.

Highlights of the FY 2018 Budget Request

In FY 2018 Budget Request proposes the repeal of WAPA's emergency borrowing authority authorized by the American Recovery and Reinvestment Act of 2009 for the purpose of constructing and/or funding projects within WAPA's service territory that deliver or facilitate the delivery of power generated by renewable energy resources.

Program Direction
Funding ($K)

	FY2016 Enacted	FY 2017 Annualized CR*	FY 2018 Request	FY 2018 vs FY 2016
Program Direction Summary				
Transmission Infrastructure Program Office				
Salaries and Benefits	2,141	---	2,447	+306
Travel	108	---	90	-18
Support Services	824	---	1,411	+587
Other Related Expenses	5,126	---	26,514	+21,388
Subtotal, Program Direction	**8,199**	**---**	**30,462**	**+22,263**
Use of Offsetting Collections	-8,199	---	-30,462	-22,263
Total, Program Direction	0	---	0	0
Federal FTEs (Mandatory Direct)	9	---	0	-9
Federal FTEs (Discretionary Reimbursable)	8	---	19	+11
Federal FTEs (Total TIP)	17	---	19	+2
Support Services and Other Related Expenses				
Technical Support				
Projects	746	---	1,250	+504
Total, Technical Support	746		1,250	+504
Management Support				
Financial Modeling	37		36	-1
Legal Policy and Review	41	---	125	+84
Total Management Support	78	---	161	+83
Total, Support Services	**824**	**---**	**1,411**	**+587**
Other Related Expenses				
Communications; utilities; miscellaneous charges	156	---	340	+184
Services from Non- Federal Sources	1,520	---	10	-1,510
Services from Loan Programs Office	3,445	---	3,839	+394
Supplies and materials	5	---	5	0
Interest Payments	0	---	22,320	+22,320
Total, Other Related Expenses	**5,126**	**---**	**26,514**	**+21,388**

Program Direction

Activities and Explanation of Changes

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Program Direction $8,199,000	**$30,462,000**	**+$22,263,000**
Salaries and Benefits $2,141,00	**$2,447,000**	**+$306,000**
• Salary and benefits provide for Federal employees that are directly assigned to the TIP program as project management, technical experts, finance and administration; those that provide expertise in land acquisition, engineering and environmental compliance; those that provide legal counsel; and those that administratively support these functions. FTE assigned to this account charge TIP's mandatory as well as discretionary funding accounts.	• Requested funding supports close out activities.	• The increase of salaries and benefits is primarily due to the slight increase of direct and indirect support provided to this account to include the proportionate FTE. Also included is the increase to salaries and benefits for inflationary purposes.
Travel $108,000	**$90,000**	**-$18,000**
• Planned essential travel supports TIP's mission related activities. TIP supports efficient spending initiatives and is reducing travel associated with general program operations, focusing on using alternative means to conduct meetings and training sessions.	• Requested funding supports close out activities.	• This is a small decrease in travel. Efforts to use video conferencing, web based meetings, and similar technologies in lieu of traveling are ongoing, where appropriate. Close out activity necessitates face-to-face meetings on a regular basis.

FY 2016 Enacted	FY 2018 Request	Explanation of Changes FY 2018 vs FY 2016
Support Services $824,000	**$1,411,000**	**+$587,000**
• Support services funded in this category include technical support costs directly associated with TIP projects, to include Environmental, Lands, Engineering, and Project Management activities. Also within this category are costs to cover legal and financial support activities to include financial modeling, outside legal counsel for contract review, policy issues, and legislative concerns.	• Requested funding supports close out activities.	• The increase in support services is due to the estimated need for technical support associated with close out of activities.
Other Related Expenses $5,126,000	**$26,514,000**	**+$21,388,000**
• Other related expenses include communications, utilities, training, depreciation, WAPA overhead rates, supplies, and materials. Services from LPO are also included in this category and interest loan payments	• Requested funding supports close out activities.	• The increase is primarily attributed to Interest loan payments, LPO costs, and close out of loan administration activities.

Western Area Power Administration
Performance Measures

In accordance with the GPRA Modernization Act of 2010, the Department sets targets for, and tracks progress toward, achieving performance goals for each program.

	FY 2016	FY 2017	FY 2018
Performance Goal (Measure)	**WAPA - System Reliability Performance - NERC Rating - WAPA - System Reliability Performance - NERC Rating - System Reliability Performance:** – Attain acceptable North American Electric Reliability Corporation (NERC) ratings for the following Control Performance Standards (CPS) measuring the balance between power generation and load: 1) CPS1 measures generation/load balance and support system frequency on 1-minute intervals (rating>100); and 2) CPS2 limits any imbalance magnitude to acceptable levels (rating>90). Following FY16, WAPA will only be measuring the CPS1 target as NERC has removed the target for CPS2.		
Target	> 100 CPS1 rating with CPS2>90	> 100 CPS1 Rating	> 100 CPS1 Rating
Result	Met - 142.52	TBD	TBD
Endpoint Target	Ensure the integrity of the nation's integrated grid by operating in compliance with National Energy Reliability Standards		

	FY 2016	FY 2017	FY 2018
Performance Goal (Measure)	**WAPA – Repayment of the Federal Investment** – Ensure unpaid investment (UI) is equal to or less than the allowable unpaid investment (AUI) in accordance with DOE Order RA 6120.2.		
Target	<=$8.025 billion dollars AUI	<=$7.996 billion dollars AUI	<=$7.85 billion dollars AUI
Result	Met - $5.318	TBD	TBD
Endpoint Target	Continue to meet legislated cost recovery requirements for timely repayment of Federal investment in maintaining financial integrity of projects/program.		

Estimate of Gross Revenues [1]

(Dollars in Thousands)

	FY 2016[2]	FY 2017	FY 2018
Boulder Canyon Project	86,340	86,659	82,954
Central Valley Project	207,331	404,935	410,395
Falcon-Amistad Project	6,392	6,967	7,082
Fryingpan-Arkansas Project	19,099	19,445	18,957
Pacific Northwest-Southwest Intertie Project	39,103	36,089	38,446
Parker-Davis Project	62,129	68,778	68,591
Pick-Sloan Missouri Basin Program	638,105	507,839	455,788
Provo River Project	289	258	258,028
Washoe Project	333	475	475,000
Salt Lake City Area Integrated Projects	188,022	177,971	177,971
Other	133,788	0	0
Total, Gross Revenues	**1,380,931**	**1,309,416**	**1,260,917**

[1] Amounts for FY 2017 and FY 2018 are based on the FY 2015 Final Power Repayment Studies (PRS).

[2] FY 2016 amounts are actuals from the annual audited financial reports. For Central Valley Project, FY 2016 amounts reported amounts exclude contractual pass-through purchase power arrangements which are included in the PRS estimates. The 'Other' FY 2016 amounts shown represent WAPA activities reported in the financials that are not reimbursable through the power and transmission rate-setting process, and are not forecasted through the PRS.

Estimate of Proprietary Receipts

(Dollars in Thousands)

	FY 2016 Actual	FY 2017	FY 2018
Mandatory Receipts			
Falcon Amistad Maintenance Fund	1,351	690	628
Sale and Transmission of Electric Power, Falcon and Amistad Dams	800	400	400
Sale of Power and Other Utilities Not Otherwise Classified	80,298	30,000	30,000
Sale of Power–WAPA–Reclamation Fund	328,747	143,945	143,945
Total, Mandatory Receipts	**411,196**	**175,035**	**174,973**
Discretionary Receipts			
Offsetting Collections from the Recovery of Power Related Expenses – WAPA CROM	352,813		308,925
Less Purchase Power and Wheeling Expenses	-352,813		-308,925
Subtotal, WAPA CROM Recovery of Power Related Expenses	0	0	0
Offsetting Collections from the Recovery of Annual Expenses – WAPA CROM	214,342		174,314
Less Operating and Maintenance expenses	-36,645		-23,922
Less Program Direction Expenses	-177,697		-150,392
Subtotal, WAPA CROM Recovery of Annual Expenses	0	0	0
Offsetting Collections from the recovery of power related expenses – Falcon and Amistad	4,262		3,948
Less Operating and Maintenance expenses	-4,262		-3,948
Subtotal, Falcon and Amistad Recovery of Power Related Expenses	0	0	0
Total, Discretionary Receipts	**0**	**0**	**0**
Total, Proprietary Receipts	**411,196**	**175,035**	**174,973**

Department Of Energy

FY 2018 Congressional Budget

Funding By Appropriation By Site

($K)

Western Area Power Admin. Const.,Rehab.,O&M	FY 2016 Enacted	FY 2017 Annualized CR	FY 2018 Request
Western Area Power Administration			
Systems Operation and Maintenance			
Systems Operation and Maintenance	436,746	448,463	393,104
Program Direction			
Program Direction	231,125	219,072	227,666
Total, Western Area Power Administration	**667,871**	**667,535**	**620,770**
Total, Western Area Power Admin. Const.,Rehab.,O&M	**667,871**	**667,535**	**620,770**

Department Of Energy

FY 2018 Congressional Budget

Funding By Appropriation By Site

($K)

Falcon & Amistad - Operating & Maintenance Fund	FY 2016 Enacted	FY 2017 Annualized CR	FY 2018 Request
Western Area Power Administration			
Falcon & Amistad Operating and Maintenance Fund			
Falcon & Amistad - Operating and Maintenance	4,490	4,482	4,176
Total, Western Area Power Administration	**4,490**	**4,482**	**4,176**
Total, Falcon & Amistad - Operating & Maintenance Fund	**4,490**	**4,482**	**4,176**

Department Of Energy

FY 2018 Congressional Budget

Funding By Appropriation By Site

($K)

Colorado River Basins Power Marketing Fund	FY 2016 Enacted	FY 2017 Annualized CR	FY 2018 Request
Western Area Power Administration			
Equipment, Contracts and Other Related Expenses			
Colorado River Storage Project	153,840	151,324	127,055
Program Direction			
Program Direction	61,807	62,206	58,341
Total, Western Area Power Administration	**215,647**	**213,530**	**185,396**
Total, Colorado River Basins Power Marketing Fund	**215,647**	**213,530**	**185,396**

Bonneville Power Administration

Bonneville Power Administration

Bonneville Power Administration (Bonneville, BPA)
Proposed Appropriations Language

Expenditures from the Bonneville Power Administration Fund, established pursuant to Public Law 93-454, are approved for official reception and representation expenses in an amount not to exceed $5,000: Provided, that during fiscal year 2018, no new direct loan obligations may be made.

Explanation of Changes

The proposed appropriations language restricts new direct loans in FY 2018 as in FY 2017**.** This bill language is drafted consistent with the Credit Reform Act of 1990.

Please Note - The FY 2018 Bonneville Power Administration Congressional Budget submission includes FY 2017 budget estimates.

Bonneville operates under a business-type budget under the Government Corporation Control Act, 31 U.S.C 9101-10 and on the basis of the self-financing authority provided by the Federal Columbia River Transmission System Act of 1974 (Transmission Act) (Public Law 93-454). Bonneville has authority to borrow from the U.S. Treasury under the Transmission Act, the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Pacific Northwest Power Act) (Public Law 96-501) for acquisition of energy conservation and renewable energy resources, investment in fish facilities, and other purposes, the American Recovery and Reinvestment Act of 2009 (Public Law 111-5), and other legislation. Authority to borrow from the U.S. Treasury is available to Bonneville on a permanent, revolving basis. The amount of U.S. Treasury borrowing outstanding at any time may not exceed $7.70 billion.[1] Bonneville finances its approximate $4.4 billion annual cost of operations and investments primarily using power and transmission revenues, and proceeds of borrowing from the U.S. Treasury.

This budget has been prepared in accordance with the Statutory Pay-As-You-Go Act (PAYGO) of 2010. Under PAYGO, all Bonneville budget estimates are treated as mandatory and are not subject to the discretionary caps included in the Budget Control Act of 2011. These estimates support activities that are separate from discretionary activities and accounts. Thus, any changes to Bonneville estimates cannot be used to affect any other budget categories, which have their own dollar caps. Because Bonneville's obligations are and will be incurred under pre-existing legislative authority, Bonneville is not subject to a "pay-as-you-go" test regarding its revision of current-law funding estimates.

[1] Amount of total treasury bonds outstanding can be found in tables BP-4A – 4D in the Additional Tables section.

Bonneville Power Administration

Funding Profile by Subprogram [1/]

(Accrued Expenditures in Thousands of Dollars)

	Fiscal Year			
	2016 Actuals	2017 Original [/2]	2017 Revised [/2]	2018 Proposed
Capital Investment Obligations				
Associated Project Costs [3/]	186,982	N/A	246,257	264,764
Fish & Wildlife	16,030	N/A	44,602	50,532
Subtotal, Power Services	203,012	N/A	290,859	315,296
Transmission Services	277,468		530,697	439,434
Capital Equipment & Bond Premium	23,924	N/A	27,000	28,860
Total, Capital Obligations [3/]	504,404	988,782	848,556	783,590
Expensed and Other Obligations				
Expensed	3,330,435	3,049,010	3,267,646	3,360,901
Projects Funded in Advance	272,432	30,000	42,010	40,107
Total, Obligations	4,107,271	4,067,792	4,158,212	4,184,598
Capital Transfers (cash)	1,437,000	205,868	280,147	333,134
BPA Total	5,544,271	4,273,660	4,438,360	4,517,732
Bonneville Net Outlays	509,317		41,266	71,266
Full-time Equivalents (FTEs)	2,880	3,100	3,100	3,100

Public Law Authorizations include:

Bonneville Project Act of 1937, Public Law No. 75-329

Federal Columbia River Transmission System Act of 1974, Public Law No. 93-454

Regional Preference Act of 1964, Public Law No. 88-552

Flood Control Act of 1944, Public Law No. 78-543

Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act), Public Law No. 96-501

Outyear Funding Profile by Subprogram [1/]

(Accrued Expenditures in Thousands of Dollars)

	Fiscal Year			
	2019	2020	2021	2022
Capital Investment Obligations				
Associated Project Costs [3/]	287,872	313,375	338,652	345,501
Fish & Wildlife	44,000	38,033	33,599	29,047
Subtotal, Power Services	331,872	351,408	372,251	374,548
Transmission Services	458,369	591,142	587,534	597,550
Capital Equipment & Bond Premium	28,860	4,880	16,257	9,267
Total, Capital Obligations [3/]	819,101	947,430	976,042	981,365
Expensed and Other Obligations				
Expensed	3,466,914	3,352,417	3,485,412	3,547,025
Projects Funded in Advance	38,937	36,025	34,837	34,774
Total, Obligations	4,324,953	4,335,873	4,496,291	4,563,164
Capital Transfers (cash)	501,741	410,398	461,500	497,173
BPA Total	4,826,694	4,746,270	4,957,791	5,060,337
Bonneville Net Outlays	211,266	141,225	215,652	192,337
Full-time Equivalents (FTEs)	3,100	3,100	3,100	3,100

These notes are an integral part of this table.

1/ This budget has been prepared in accordance with PAYGO. Under PAYGO all Bonneville budget estimates are treated as mandatory and are not subject to the discretionary caps included in the Budget Control Act of 2011. These estimates support activities that are separate from discretionary activities and accounts. Thus, any changes to Bonneville estimates cannot be used to affect any other budget categories which have their own dollar caps. Because Bonneville's obligations are and will be incurred under pre-existing legislative authority, Bonneville is not subject to a "pay-as-you-go" test regarding its revision of current-law funding estimates.

2/ Original estimates reflect Bonneville's FY 2017 Congressional Budget Submission. Revised estimates, consistent with Bonneville's annual near-term funding review process, provide notification to the Administration and Congress of updated capital and expense funding levels for FY 2017.

3/ Includes infrastructure investments designed to address the long-term electric power related needs of the Northwest and to reflect significant changes affecting Bonneville's power and transmission markets.

Additional Notes

Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

Cumulative advance amortization payments as of the end of FY 2016 are $4,333 million.

Refer to 16 USC Chapters 12B, 12G, 12H, and Bonneville's other organic laws, including P.L. 100-371, Title III, Sec. 300, 102 Stat. 869, July 19, 1988, regarding Bonneville's ability to obligate funds.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving competitive electric utility industry.

Net Outlay estimates are based on current cost savings to date and anticipated cash management goals. They are expected to follow anticipated management decisions throughout the rate period that, along with actual market conditions, will impact revenues and expenses. Actual Net Outlays are volatile and are reported in Report on Budget Execution and Budgetary Resources (SF-133). Actual Net Outlays could differ from estimates due to changing market conditions, streamflow variability, and continuing restructuring of the electric industry.

Revenues, included in the Net Outlay formulation, are calculated consistent with cash management goals and assume a combination of adjustments. Assumed adjustments include the use of a combination of tools, including upcoming rate adjustment mechanisms, a net revenue risk adjustment, debt service refinancing strategies and/or short-term financial tools to manage net revenues and cash. Some of these potential tools will reduce costs rather than generate revenue, causing the same Net Outlay result. Adjustments for depreciation and 4(h)(10)(C) credits of the Northwest Power Act are also assumed.

FY 2016 Net Outlays are based on Bonneville's FY 2016 audited actuals. FY 2017 Net Outlays are calculated using Bonneville's revenue forecast from the BP-16 rate case. FYs 2018 & 2019 assume no growth in Offsetting Collections compared to FYs 2016 & 2017. FYs 2020 through 2022 assume a growth in Offsetting Collections based on standard inflation factors.

FTE outyear data are estimates and may change. Bonneville is facing a dynamic and changing transmission marketplace and operations while, at the same time, many of its employees are eligible to retire in the near future. It is important that Bonneville continue to attract and retain skilled individuals to meet the growing demands of a competitive and rapidly changing industry. Accordingly, FTE estimates may need to be adjusted in the future.

Major Outyear Considerations

Bonneville's outyear estimates reflect ongoing efforts to achieve its long-term mission and strategic direction. The outyear estimates are developed with consideration and support of Bonneville's multi-year performance targets that lay out the course for achieving Bonneville's long-term objectives. Outyear capital investment levels support Bonneville's infrastructure program, hydro efficiency program, and its fish and wildlife mitigation projects.

Bonneville continues to incorporate the various aspects of the Energy Policy Act of 2005 related to its business, in particular the energy supply, conservation, and new energy technologies for the future that are highlighted in the legislation.

Overview and Accomplishments

Bonneville provides electric power, transmission, and energy efficiency throughout the Pacific Northwest. Bonneville serves a 300,000 square mile area including Oregon, Washington, Idaho, western Montana, and small parts of eastern Montana, California, Nevada, Utah, and Wyoming with a population of about 13.3 million people. Bonneville markets the electric power produced from 31 federal hydro projects in the Pacific Northwest owned by the U.S. Army Corps of Engineers (Corps) and the U.S. Department of Interior, Bureau of Reclamation (Reclamation)—the hydro projects are known as Associated Projects. Bonneville also markets power acquired from non-federal generating resources, including the power from a nuclear power plant, Columbia Generating Station (CGS). Bonneville uses the power from non-federal and federal projects primarily to meet the needs of its customer utilities. Bonneville currently maintains and operates 15,212 circuit miles of transmission lines, 261 substations, and associated power system control and communications facilities over which this electric power is delivered. Bonneville has capital and similar leases for certain transmission facilities. Bonneville also supports the protection and enhancement of fish and wildlife, and promotes conservation and energy efficiency, as part of its efforts to preserve and balance the economic and environmental benefits of the Federal Columbia River Power System (FCRPS).

The organization of Bonneville's FY 2018 Budget reflects Bonneville's business services basis for utility enterprise activities. Bonneville's two major areas of activity on a consolidated budget and accounting basis are Power Services (PS) and Transmission Services (TS) and include their related administrative costs. PS activities include line items for Fish and Wildlife, Energy Efficiency, Residential Exchange Program (REP), Associated Projects Operations & Maintenance (O&M) Costs, and Northwest Power and Conservation Council (Planning Council or Council). The FY 2018 Budget Request proposes that the Federal government be authorized to sell the transmission assets of Bonneville.

The current mission of Bonneville is to create and deliver the best value for its customers and constituents as it acts in concert with others to assure the Pacific Northwest has the following: (1) an adequate, efficient, economical, and reliable power supply; (2) an open access transmission system that is adequate for integrating and transmitting power from federal and non-federal generating units, providing service to Bonneville's customers, providing interregional interconnections, and maintaining electrical reliability and stability; and (3) mitigation of the FCRPS impacts on fish and wildlife. Bonneville is legally obligated to provide cost-based rates and public and regional preference in its marketing of power. Bonneville establishes rates as low as possible consistent with sound business principles and sufficient to ensure the full recovery of all of its costs, including timely repayment of the federal investment in the system. Bonneville's vision is to provide: (1) high reliability; (2) low rates consistent with sound business principles; (3) responsible environmental stewardship; and (4) accountability to the region. Bonneville pursues this vision consistent with its four core values of safety, trustworthy stewardship of the FCRPS, collaborative relationships, and operational excellence.

Preserving and Enhancing the FCRPS

The FCRPS is one of the nation's largest nearly carbon-free energy sources and preserving and enhancing the value of the FCRPS for the future continues to be a major Bonneville focus. Bonneville's ongoing prioritization and execution of capital investment in transmission and FCRPS generation assets is the foundation for delivering clean, low cost power to support the communities and economies of the region well into the future.

Bonneville plays a key role in advancing energy efficiency across the region consistent with its statutes, including developing and promoting related technologies, and exploring demand-side management opportunities. Bonneville is making disciplined technology innovation investments and looking to apply new operational and market mechanisms that enhance the reliability, efficiency, and flexibility of system operations.

In addition to these efforts, Bonneville is committed to the quality of the Northwest's natural resources. Bonneville funds one of the largest fish and wildlife programs in the nation and continues to be a national leader on environmental protection and compliance.

Together, all of these efforts contribute to sustaining and advancing the region's resilience.

Program Performance

To validate and verify program performance, Bonneville conducts various internal and external reviews and audits. Bonneville conducts extensive reviews with regional stakeholders of both capital and expense programs. In addition, Bonneville's programmatic activities are subject to review by Congress, the U.S. Government Accountability Office (GAO), the DOE's Inspector General, and other governmental entities. Bonneville's financial statements are audited annually by an independent external auditor. Bonneville has received unqualified audit opinions since the mid-1980s and no material weaknesses have been identified in controls over financial reporting.

Legislative History

The Bonneville Project Act of 1937 provides the original statutory foundation for Bonneville's power marketing responsibilities and authorities. In 1974, passage of the Federal Columbia River Transmission System Act (Transmission Act) applied provisions of the Government Corporation Control Act (31 U.S.C. §§ 9101-9110) to Bonneville. The Transmission Act provides Bonneville with "self-financing" authority, establishes the Bonneville Fund (a permanent, indefinite appropriation) allowing Bonneville to use its revenues from electric power and transmission ratepayers to fund all programs without further appropriation, and authorizes Bonneville to sell bonds to the U.S. Treasury to finance Bonneville's high-voltage electric transmission system.

In 1980, enactment of the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act) expanded Bonneville's authorities, obligations, and responsibilities. The purpose of the act includes the following: to encourage electric energy conservation to meet regional electric power loads placed on Bonneville; to develop renewable energy resources within the Pacific Northwest; to assure the Northwest an adequate, efficient, economical, and reliable power supply; to promote regional participation and planning; and to protect, mitigate, and enhance the fish and wildlife of the Columbia River and its tributaries. The Northwest Power Act also established the statutory framework for Bonneville's administrative rate-setting process and established judicial review of Bonneville's final decisions in the U.S. Court of Appeals for the Ninth Circuit.

As of the end of FY 2016, Bonneville has revolving U.S. Treasury borrowing authority of $7.7 billion with approximately $3 billion remaining on it.

The Columbia River Treaty

The U.S. Government reached consensus on a high level position for negotiations of the post-2024 future of the Columbia River Treaty in June 2015. The final regional recommendation delivered to the Department of State by Bonneville and the Corps (together the "U.S. Entity") in December 2013 was considered in this effort. A lead negotiator from the Department of State was named in August 2015. Since that time, the Department of State, the U.S. Entity, and other federal agencies have worked toward completing the official authorization that allows the U.S. Government to negotiate with Canada. The authorization to negotiate was concluded in October 2016.

Judicial and Regulatory Activity

The Energy Policy Act of 2005 authorized the Federal Energy Regulatory Commission (FERC) to approve and enforce mandatory electric reliability standards with which users, owners, and operators of the bulk power system, including Bonneville, are required to comply. These standards became enforceable on June 18, 2007, and compliance is monitored by the North American Electric Regulatory Corporation (NERC) and the regional reliability organizations.

Fish and Wildlife Program Overview

Bonneville is committed to continue funding its share of the region's efforts to protect and mitigate Columbia River Basin fish and wildlife. To the extent possible, Bonneville is integrating actions to protect species listed for protection under the Endangered Species Act (ESA) in response to the FCRPS Biological Opinions (BiOps), including the National Oceanic and Atmospheric Administration (NOAA) Willamette River BiOp and the United States Fish and Wildlife Service's (USFWS) 2006 Libby Dam BiOp, with projects implemented consistent with the Council's Fish and Wildlife Program (Program). The Program, BiOps, and long-term agreements include prioritized strategies for mitigation actions to meet Bonneville's environmental compliance responsibilities under the ESA, Northwest Power Act, and other laws.

Included with the budget schedules section of this document is the current tabulation of Bonneville's fish and wildlife costs from FY 2007 through FY 2016.

Infrastructure Investments

Bonneville is reviewing infrastructure investments in the Pacific Northwest to meet transmission capacity and reliability needs and continues to support a competitive wholesale market in the Western Interconnection, which encompasses 14 western states, two Canadian provinces, and one Mexican state.

Bonneville has completed three major transmission lines since 2011 (i) the McNary-John Day line—completed in FY 2012, under budget and ahead of schedule—added 79 miles, (ii) the Big Eddy-Knight 500kV transmission line and substation project resumed construction in 2014 and was energized in November 2015, and (iii) the Central Ferry-Lower Monumental 500kV Reinforcement which began construction in May 2014 and was also energized in November 2015. Bonneville also completed the modernization of the Celilo Converter station at the northern end of the 846-mile Pacific Direct Current Intertie. The new station was energized in January 2016, well ahead of schedule and within budget.

The proposed I-5 Corridor Reinforcement Project environmental review is complete and is being discussed with stakeholders prior to any decision to move forward. In FY 2012, Bonneville signed two agreements to participate with two investor-owned utilities in the environmental work and permitting for another transmission project, the proposed Boardman-to-Hemingway 500kV line. Participation in this preliminary review keeps Bonneville's options open for serving its six southeast Idaho Preference Customers after the current transmission service agreements terminate. Bonneville has not made a decision to co-develop or purchase capacity in these projects. On January 17, 2014, Public Law 113-76 was enacted into law, which provided Bonneville with expenditure authority approval to construct or participate in the construction of a transmission line to southeast Idaho, should Bonneville decide to continue pursuing that service arrangement.

Bonneville is also continuing to evaluate additional transmission investments across the Pacific Northwest to improve reliability and support both load and renewable generation needs.

Bonneville has experienced significant growth within its balancing area in installed variable renewable generation, primarily in the form of wind generation. Since 2001, installed wind generation connected to Bonneville's transmission system has grown from 115 MWs to 5,081 MWs through September 2016. Of the 5,081 MW of connected wind, 4,782 MW is currently in Bonneville's Balancing Authority Area (BAA). This substantial increase in variable renewable generation has resulted in additional uncertainties in the balance between load and generation required for maintaining a reliable grid. Wind is a non-dispatchable source of energy, meaning it cannot be relied upon for capacity. As a result, Bonneville has implemented and continues to study operational tools for integrating this variable generation more cost effectively and reliably. Further complicating matters, 2,408 MW of the wind energy currently in Bonneville's BAA is requesting to join different BAA's. Although this removes variable generation from Bonneville's BAA, these projects are still physically connected to Bonneville's system and continue to impact the daily operations of BPA. Off-setting the wind leaving Bonneville's BAA is the possibility that a large amount of utility scale solar photo-voltaic (PV) projects are being added to Bonneville's queue. Bonneville is currently studying approximately 2,000 MW of solar interconnection requests and new requests are coming in at an average rate of one per week. Solar, like wind, is a variable generation source, but its characteristics are different than wind. Bonneville will need to learn and adapt to this new generation type.

Bonneville is considering approaches, in addition to or in lieu of the use of its U.S. Treasury borrowing authority, to sustain funding for its infrastructure investment requirements. These approaches include a divestiture of Bonneville's transmission assets, reserve financing of some amount of transmission investments, or seeking, when feasible, third party financing sources. See the BP-5 Potential Third Party Financing Transparency table in the budget schedules section of this document. This FY 2018 Budget assumes $15 million of annual reserve financing in FYs 2017-2022 for transmission infrastructure capital, which is included in this budget under Projects Funded In Advance. In addition, the FY 2018 Budget Request proposes that the Federal government be authorized to sell the transmission assets of Bonneville.

Radio Spectrum Communications

Bonneville's wireless communication system is used to operate and control critical national transmission grid infrastructure in a reliable, secure, and safe manner. Bonneville's communication systems are designed to meet strict reliability/availability objectives required by NERC and Western Electricity Coordinating Council (WECC) standards. Concerning proper spectrum stewardship, Bonneville designs highly efficient radio systems that use minimal radio frequency (RF) channel bandwidths to meet critical mission needs. However, in certain circumstances, efficiently designed spectrum radio systems will require broad RF channels and/or lower state RF modulation schemes to meet existing and future requirements in order to meet operational and reliability/availability objectives.

In order to meet Bonneville's mission/operational requirements, RF communication equipment approved for system use goes through a rigorous evaluation and testing process. RF spectrum efficiency factors are considered during the evaluation/testing period. RF terminal equipment approved for use is normally purchased directly from vendors and is not typically supplied through a Request for Proposal process.

Bonneville's operational telecommunications and other capital equipment and systems are acquired using Bonneville's self-financing and procurement authorities. The Bonneville budget includes a system-wide electric reliability performance indicator, consistent with NERC rules, to track and evaluate performance.

Bonneville may share temporarily-available spare capacity on its RF communication system with other government agencies (both Federal and State), and with other electric utilities in the region whose power systems interconnect with Bonneville. Non-critical administrative traffic is typically supported by commercial carrier enterprises. However, to meet NERC/WECC electrical bulk transmission requirements, Bonneville exclusively operates highly critical transmission control traffic over its private telecommunication system as Bonneville has no control over the reliability/availability of the commercial enterprise or on how quickly critical operational control circuits are restored to active service during an interruption.

For high capacity communication system applications, Bonneville considers and operates non-spectrum dependent alternatives such as fiber optic cable infrastructure systems.

During FY 2014, Bonneville began upgrading the Very High Frequency (VHF) land mobile system and installing a number of digital Synchronous Optical Network (SONET) rings typically consisting of fiber segments in combination with point-to-point microwave hops operating in the 4 GHz and 7/8 GHz bands. These various telecommunication systems operate within Bonneville's approximate 300,000 square mile utility responsibility service territory (Oregon, Washington, Idaho, western Montana) with the majority of the RF infrastructure located in low population-rural areas.

The FCRPS hydroelectric projects, owned by the Corps and Reclamation, also utilize federal radio spectrum to preserve very high operational telecommunications and power system reliability.

In FY 2014, Bonneville completed work costing approximately $40 million, funded through the Spectrum Relocation Fund, to relocate its operational telecommunication systems from the 1710-55 MHz radio spectrum bands to alternative federal radio spectrum bands. In accordance with Federal law, Bonneville plans to return the approximately $8.2 million of excess funds to the U.S. Treasury, via the Spectrum Relocation Fund, as soon as the National Telecommunications and Information Administration (NTIA) officially notifies the Federal Communications Commission (FCC) that the DOE relocation effort is complete.

Bonneville began participating in a new spectrum relocation effort in FY 2015. The NTIA has approved and, in July 2014, web-posted federal agency relocation plans, including the Bonneville relocation plan. The FCC held an auction of this spectrum on November 13, 2014. Bonneville received an additional $5.2 million from the Spectrum Relocation Fund on July 29, 2015 to fully pay for this new relocation effort, including, as in the prior relocation, the purchase and installation of new digital radio equipment. Bonneville received obligational authority to proceed with this relocation effort by apportionment on July 24, 2015.

Financial Mechanisms

Bonneville's program is treated as mandatory and nondiscretionary. Bonneville is "self-financed" with its own revenues and does not rely on annual appropriations from Congress. Under the Transmission Act, Bonneville funds the expense portion of its budget and repays the federal investment with revenues from electric power and transmission sales. Bonneville's revenues fluctuate for a variety of reasons, including in response to variations in market prices for fuels and stream flow in the Columbia River System due to variations in weather conditions and fish mitigation needs. Through FY 2016, Bonneville has returned approximately $32.6 billion to the U.S. Treasury, of which about $3.6 billion was for payment of FCRPS operation and maintenance (O&M) and other costs, $15.5 billion for interest, and $13.5 billion for amortization of appropriations and bonds.

In the FY 2018 Budget, the term Bonneville "bonds" refers to the debt instruments under which Bonneville receives advances of funds from the U.S. Treasury. This reference is consistent with section 13(a) of the Transmission Act, which defines Bonneville bonds as all bonds, notes, and other evidences of indebtedness issued and sold by Bonneville to the U.S. Treasury.

As of September 30, 2016, debt instruments issued by non-federal entities but secured by payment and other financial commitments provided by Bonneville maintained their credit ratings as follows: Moody's at Aa1 with a stable outlook, Fitch at AA with a stable outlook, and Standard & Poor's at AA- with a stable outlook.

Bonneville and the U.S. Treasury have a comprehensive banking arrangement that covers Bonneville's short- and long-term federal borrowings. This provides Bonneville with the ability to borrow to finance assets and, on a short-term basis, to cover Northwest Power Act-related operating expenses. This latter ability provides Bonneville with much needed liquidity to help manage within-year cash flow needs and mitigate risk. Access to this use of U.S. Treasury borrowing authority has been incorporated into and relied upon in Bonneville's rate-setting process.

Bonneville undertook a Power Prepayment Program in FY 2013 under which all Bonneville preference customers had an opportunity to submit formal offers to provide lump-sum payments to Bonneville as prepayments of a portion of their power purchases through September 30, 2028, the termination date of the Long-Term Regional Dialogue Power Sales Contracts. Bonneville accepted power prepayments from four preference customers, as described below.

Upon Bonneville's receipt of the agreed-to, lump-sum prepayments, the selected preference customers became entitled to future portions of their electricity from Bonneville without further payment. The power prepayments are and will be recognized in the customers' future power bills from Bonneville as fixed, equal monthly prepayment credits. In effect, the amount of electricity that is prepaid may vary by month, depending on Bonneville's power rates and rate schedules that apply to electricity purchases by the prepaying customers in the related month. Because this is structured as a variable amount prepayment and not as a fixed-price/fixed-amount type of prepayment, Bonneville maintains flexibility to establish rates for the electric power that is prepaid.

As a result of the FY 2013 Prepayment solicitation, Bonneville received $340 million in prepayments, which Bonneville is using to fund needed FCRPS investments. The aggregate prepayment credits are set at $2.55 million per month through FY 2028.

Depending on a variety of factors it is possible that Bonneville may seek to implement later phases of the Power Prepayment Program in connection with future FCRPS hydroelectric investment needs.

Treasury Payments and Budget Overview

Bonneville's FY 2016 payment to the U.S. Treasury of $1,875 million was made on time and in full for the 33rd consecutive year. The payment included $1,437 million in principal, which included $959 million in early retirement of higher interest rate U.S. Treasury debt, $343 million for interest, $60 million in irrigation assistance payments, and $35 million in other payments. Total credits associated with fish mitigation and recovery and applied toward Bonneville's U.S. Treasury payment were about $70 million for FY 2016. These credits are established and applied under section 4(h)(10)(C) of the Northwest Power Act. For FY 2017, Bonneville plans to pay the U.S. Treasury $668 million: $280 million to repay investment principal,

$301 million for interest, and $87 million for Associated Project costs and pension and post-retirement benefits. The FYs 2018 and 2019 U.S. Treasury payments are currently estimated at $701 million and $924 million, respectively. The FY 2017, 2018, 2019 4(h)(10)(C) credits are estimated to be $88 million, $97 million, and $97 million, respectively.

Estimates of interest and amortization levels for outyear U.S. Treasury payments are included in the FY 2016-2017 final transmission and power rates. Bond and Appropriations Interest will continue to be revised based on upcoming capital investments and debt management actions. These estimates may change due to revised capital investment plans and actual U.S. Treasury borrowing. In recent years, Bonneville has made amortization payments in excess of those scheduled in its FERC-approved rate filings resulting in a balance of advance repayment. The cumulative amount of advance amortization payments as of the end of FY 2016 is about $4,333 million.

Bonneville has direct funding arrangements to fund the power-related portion of O&M and capital investments at the Corps and Reclamation facilities as well as the O&M costs of the U.S. Fish and Wildlife Service Lower Snake River Compensation Plan facilities. Direct funded Associated Projects capital costs, which had been funded exclusively through appropriations to the Corps and Reclamation prior to the initiation of direct funding, are now paid primarily from the proceeds of bonds issued by Bonneville to the U.S. Treasury. Certain power prepayments have also been a source of proceeds for direct funding. Bonneville's aggregate direct funding provided for capital and O&M was $605 million in FY 2016.

Starting in FY 2014, Bonneville and Energy Northwest, the Washington state joint operating agency that owns and operates the Columbia Generating Station nuclear plant, have been working together to implement a new phase of integrated debt management for their combined total debt portfolios. The debt service of these portfolios is borne by Bonneville and recovered from Bonneville ratepayers through Bonneville's rates. Energy Northwest-related debt, as refinanced under this effort, is called Regional Cooperation Debt. Bonneville expects to work with Energy Northwest to continue undertaking these types of transactions through FY 2020.

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. The maturity extensions result in increased balances in the Bonneville Fund that are used to prepay higher interest rate federal obligations. The increased balances arise because Bonneville's rates are set assuming it would need funds to repay the maturing Energy Northwest bonds; however, when the maturing bonds are repaid with the proceeds of the new refunding bonds (and not from cash in the Bonneville Fund), the resulting 'freed up' balances in the Bonneville Fund become available to fund the early appropriations repayments. The net effect of refunding Regional Cooperation Debt and prepaying higher interest rate federal obligations is that the weighted-average interest rate of Bonneville's overall debt portfolio has been and will be reduced. In addition, Bonneville's aggregate principal balance of debt outstanding (federal and non-federal) does not and will not increase by virtue of the Regional Cooperation Debt program.

Energy Northwest accelerated site restoration of the Energy Northwest Nuclear Projects 1 and 4 in the summer of 2015.

This FY 2018 Budget proposes estimated accrued expenditures of $3,361 million for operating expenses, $40 million for Projects Funded in Advance (PFIA), $784 million for capital investments, and $333 million for capital transfers in FY 2018.

The estimated spending levels in this budget are still subject to change to accommodate competitive dynamics in the region's energy markets, debt management strategies, continuing changes in the electric industry, and other factors.

Current Financial Status

Bonneville is striving to enhance its competitive, cost-effective delivery of utility products and services and the continued delivery of the public benefits of its operations, while ensuring it continues to make its scheduled payments to the U.S. Treasury on time and in full. Bonneville employs a strategic planning process using the balanced scorecard model to align all business units around specific goals and align resources to achieve these goals. Results from these efforts include continued efficiency gains, performance integration improvements, and a high assurance for repayment of both the bonds Bonneville issues to the U.S. Treasury and the appropriated investment in the FCRPS.

Through cost-based rates and attentive cost management efforts, Bonneville has maintained adequate financial reserve levels to assure full recovery of its costs and financial stability while meeting its overall responsibilities to the Pacific Northwest and U.S. taxpayers.

Bonneville released the initial proposal for the FYs 2018-2019 rates on November 17, 2016.

Budget Estimates and Planning

This FY 2018 Budget includes capital and expense estimates based on initial spending proposals from Bonneville's 2016 Capital Investment Review (CIR) and Integrated Program Review (IPR) process. FY 2016 actual costs are based on Bonneville's FY 2016 audited financial statements. **The FY 2018 Budget Request proposes that the Federal government be authorized to se**ll **the transmission assets of Bonneville.**

Capital funding levels reflect Bonneville's capital asset management process and external factors such as changes affecting the West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region and national energy security goals.

Capital investment levels in this FY 2018 Budget reflect executive management decisions from Bonneville's Finance Committee and the associated capital review process. Bonneville utilizes a structured capital project selection process requiring submission of a standardized business case for review. Each business case consists of a description of the project, a clear statement of objectives, description and mitigation of risks, and a rigorous analysis of project costs and benefits including a status quo assumption and preferred alternatives. In addition, both annual and end-of-project targets are set for each project covering cost, scope, and schedule. Progress reports on these targets are provided to Bonneville's senior executives at least quarterly.

The FYs 2017-2022 revenue estimates in this budget, included in the Net Outlay formulation, are calculated consistent with cash management goals. The revenue estimates reflect assumed adjustments, which include the use of a combination of tools, including upcoming rate adjustment mechanisms, reduced cost estimates, a net revenue risk adjustment, debt management strategies, and/or short-term financial tools to manage net revenues and cash. The revenue estimates also include depreciation and U.S. Treasury repayment credit assumptions. These U.S. Treasury repayment credits offset, among other things, Bonneville's fish and wildlife program costs allocable to the non-power project purposes of the FCRPS, as provided under section 4h(10)(C) of the Northwest Power Act.

Overview of Detailed Justifications

In Bonneville's Detailed Justification Summaries, accrued expenditure is the basis of presenting Bonneville's program funding levels in the power and transmission rate making processes and the basis upon which Bonneville managers control their resources to provide products and services. Accrued expenditures relate period costs to period performance. Traditional budget obligation requirements for Bonneville's budget are assumed on the Program and Financing Summary Schedule prepared in accordance with Office of Management & Budget (OMB) Circular A-11.

The organization of Bonneville's FY 2018 Budget and these performance summaries reflect Bonneville's business services basis for utility enterprise activities. Bonneville's major areas of activity on a consolidated budget and accounting basis include power and transmission, with administrative costs included. Power Services includes line items for Fish and Wildlife, Energy Efficiency, Residential Exchange Program, Associated Projects O&M Costs, and the Council. Environmental activities are shown in the relevant Power Services and Transmission Services sections, as are reimbursable costs. Bonneville's interest expense, pension and post-retirement benefits, and capital transfers to the Treasury are shown by program.

The first section of performance summaries, Capital Investments, includes accrued expenditures for investments in electric utility and general plant associated with the FCRPS generation and transmission services, fish and wildlife, and capital equipment. These capital investments are estimated to require budget obligations and expected use of $784 million in bonds to be issued and sold to the U.S. Treasury in FY 2018.

The near-term forecast of capital funding levels has undergone an extensive internal review as a result of Bonneville's capital asset management strategy. These capital reviews encompass project cost management initiatives, capital investment assessments, and categorization of capital projects to be funded based on risk and other factors. Consistent with Bonneville's near-term capital funding review process and Bonneville's standard operating budget process, this FY 2018 Budget includes updated capital funding levels for FY 2017. Utilizing this review process helps Bonneville in its efforts as a participant in wholesale energy markets. Bonneville will continue to work with the Corps and Reclamation to optimize the mix of projects.

In addition to its internal management assessment of capital investments, Bonneville has developed and implemented an associated external capital investment review process that provides significant benefits to Bonneville. The combined internal and external processes add value by improving direction in making the FCRPS investments (tying investments more closely to agency strategy) and by improving how those investments are made (more detailed analysis and review of capital investments and their alternatives).

The second section of Bonneville's performance summaries, entitled Annual Operating Expenses, includes accrued expenditures for services and program activities financed by power sales revenues, transmission sales revenues, and projects funded in advance. For FY 2018, budget expense obligations are estimated at $3,361 million. The total program requirements of all Bonneville programs include estimated budget obligations of $4,185 million in FY 2018.

Evidence and Analysis in the Budget

Bonneville has undertaken several initiatives and processes to determine appropriate budget expenditures.

Bonneville's Integrated Program Review (IPR) process allows interested parties to see all relevant FCRPS expense and capital spending level estimates in the same forum. In addition, Bonneville's Capital Investment Review (CIR) process allows interested parties to review and comment on Bonneville's draft Asset Strategies and 10-year capital forecasts. The IPR and CIR processes were combined in 2016 and occur every two years, or just prior to each rate case, and provide participants with an opportunity to review and comment on Bonneville's program level estimates prior to spending levels being set for inclusion in rate cases. The 2016 IPR and CIR process concluded in the fall of 2016. Bonneville conducted a second, targeted IPR (IPR2) process in early 2017 and will use that information in preparing Bonneville's final rate proposal for FYs 2018-2019.

Bonneville is focused on institutionalizing operational excellence – continuous improvement that produces more efficient and effective ways to deliver on Bonneville's mission and vision. In FY 2015, Bonneville re-focused its continuous improvement efforts to concentrate on seven Key Strategic Initiatives (KSIs). One of these initiatives resulted in a major program overhaul to our Safety and Health program. This effort encompassed changes to safety governance, improved safety culture, organization design modifications, process improvement projects to close gaps, and improvements in policy, human performance, and job specific training. In FY 2016 the Strategy Execution activity was realigned to the newly established Business Transformation Office (BTO). The BTO has been implemented in order to ensure that Bonneville's transformational initiatives, including the KSIs, are executed in the most efficient manner, from a time, cost, and resource perspective. In addition, the BTO will mature foundational capabilities such as process and project management, and organizational change management. The former Strategy Execution function will now be called Enterprise Architecture with the responsibility for developing a disciplined approach to modeling an organization's business processes and capabilities. Using models, policies, and defined interactions between people, processes, information, and technology, Enterprise Architecture will bring together business and Information Technology (IT) to deliver quality and cost effective solutions for transformational initiatives.

Educational Activities

The Bonneville Power Administration is a supporter of science, technology, engineering, and math (collectively known as "STEM") education programs. These programs provide support and encouragement to middle and high school students to study the sciences in school and to pursue careers in these fields. Working with Bonneville employees as volunteer ambassadors, the Bonneville education program provides value-added presentations, curricula, and activities to K-12 schools that enhance the learning experience for students and teachers, and extend awareness of the value of the region's

hydroelectric system to future generations. As a regional leader in STEM education, Bonneville also proudly supports and organizes an award-winning Science Bowl. Bonneville also sponsors Science Fair competitions for students in Washington state, as well as a First Robotics tournament championship.

Power Services - Capital
Funding Schedule by Activity

Funding ($K)

	FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate	FY 2018 vs FY 2017 $	FY 2018 vs FY 2017 %
Power Services – Capital					
Associated Project Costs	186,982	246,257	264,764	18,507	8%
Fish & Wildlife	16,030	44,602	50,532	5,930	13%
Total, Power Services – Capital	**203,012**	**290,859**	**315,296**	**24,437**	**8%**

Outyears ($K)

	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
Power Services – Capital					
Associated Project Costs	264,764	287,872	313,375	338,652	345,501
Fish & Wildlife	50,532	44,000	38,033	33,599	29,047
Total, Power Services - Capital	**315,296**	**331,872**	**351,408**	**372,251**	**374,548**

Program Overview

Associated Project Costs provide for direct funding of additions, improvements, and replacements of existing Reclamation and Corps hydroelectric projects in the Pacific Northwest. The FCRPS hydro projects produce electric power that is marketed by Bonneville.

Maintaining the availability and increasing the efficiency of the FCRPS is critical to ensuring that the region has an adequate, efficient, economic, and reliable power system. The FCRPS represents about 80 percent of Bonneville's firm power supply and includes 31 operating federal hydroelectric projects with over 200 generating units. These projects have an average age of about 50 years, with some that exceed 60 years of age. Through direct funding and the cooperation of the Corps and Reclamation, Bonneville uses its U.S. Treasury borrowing authority and other sources to make investments needed to restore generation availability and improve efficiency, reducing demand on Corps and Reclamation appropriations for power-related investments.

Since the beginning of direct funding in FY 1997, Bonneville, along with its joint operating partners, the Corps and Reclamation, has improved system performance. In 1999, at the direction of Congress, Bonneville issued a report that it soon began to implement called the "Asset Management Strategy for the FCRPS." In this report, Bonneville concluded that it needed to invest nearly $1 billion, in aggregate, in the hydroelectric projects over the ensuing 12 to 15 years. Supplementary analyses and experience with the system have revealed additional and ongoing investment needs.

These planned investments, included in the FY 2018 Budget estimates, will maintain the generation performance of the FCRPS. Moving forward with the cost-effective opportunities to expand the generation and to preserve and enhance the capability of the FCRPS is a smart, economic, and environmentally beneficial decision when compared to purchasing power from the market to serve growing Pacific Northwest electricity needs.

Fish and wildlife capital costs incurred by Bonneville are directed at activities that mitigate Columbia River Basin fish and wildlife resources. Bonneville uses capital to fund projects designed to increase juvenile and adult fish passage through the Columbia River system, to increase fish production and survival through construction of hatchery, acclimation and fish monitoring facilities, and to increase wildlife and resident fish populations through land acquisitions. These capital projects support both Northwest Power Act and ESA priorities and are integrated with the Program in order to efficiently meet Bonneville's responsibilities under the Northwest Power Act to mitigate federal hydrosystem impacts to Columbia River Basin fish and wildlife.

Bonneville implements projects consistent with the Program and the purposes of the Northwest Power Act. Most projects recommended by the Council undergo independent scientific review as directed by the 1996 Energy and Water Appropriations Act, which added section 4(h)(10)(D) to the Northwest Power Act. As a result, the Council appoints an Independent Scientific Review Panel (ISRP) "to review a sufficient number of projects" proposed to be funded through Bonneville's annual fish and wildlife budget "to adequately ensure that the list of prioritized projects recommended is consistent with the Program." The Northwest Power Act further states that "in making its recommendations to Bonneville, the Planning Council shall consider the impact of ocean conditions on fish and wildlife populations; and shall determine whether the projects employ cost effective measures to achieve program objectives." Today, most mitigation projects funded by Bonneville receive ISRP review as part of the Council recommendation process. The Council uses a multi-year project review cycle during which the ISRP reviews categories of projects grouped together.

Under the Northwest Power Act, the Council must develop a Fish and Wildlife Program that protects, mitigates, and enhances Columbia River Basin fish and wildlife affected by the federal and non-federal hydroelectric projects in the basin. The Program, the FCRPS BiOp, other BiOps, and Bonneville's long-term agreements include prioritized strategies for mitigation actions and projects to meet Bonneville's responsibilities under the Northwest Power Act, the ESA, the Federal Clean Water Act, and other laws. When issues arise that potentially trigger the *in lieu* provision of the Northwest Power Act, which prohibits Bonneville from funding mitigation that other entities are authorized or required to undertake, Bonneville works with the Council and the regional fish and wildlife managers, customers, and tribes, as appropriate, to ensure ratepayers fund only appropriate mitigation.

As required under the ESA, Bonneville uses capital to fund actions to help avoid jeopardizing listed species. Guidance for those actions is found in the most recent BiOp issued by NOAA in 2008, as supplemented in 2010 and 2014, and the USFWS BiOp in 2006/2010.

- In February 2006, USFWS issued a BiOp for Libby Dam for the Kootenai River white sturgeon and bull trout. A subsequent Settlement Agreement between USFWS and the Center for Biological Diversity was memorialized by modifying the BiOp in 2008. Additional consultation is occurring as part of the larger USFWS bull trout consultation.
- In 2010 USFWS designated critical habitat for bull trout (following USFWS's issuance in 2000 of a BiOp for FCRPS impacts on bull trout). The Action Agencies (Corps, Reclamation, and Bonneville) are preparing a biological assessment covering FCRPS operational effects on bull trout and designated bull trout critical habitat.
- In May 2008, NOAA issued a FCRPS BiOp for 13 listed species of salmon and steelhead, supplemented in a 2010 Supplemental BiOp that incorporated the Action Agency's Adaptive Management Implementation Plan, and further supplemented in a 2014 Supplemental BiOp. On January 17, 2014, NOAA released its 2014 Supplemental BiOp. In May 2016, the Federal District Court for the District of Oregon invalidated the BiOp on numerous grounds and found that the Corps and Reclamation violated the National Environmental Policy Act (NEPA) when they issued decision documents to implement the BiOp. The Court ordered NOAA to complete a new BiOp by December 31, 2018, and ordered the Corps and Reclamation to complete a NEPA process in 2021.
- In July 2008, USFWS and NOAA issued Willamette River BiOps to address impacts from 13 federal dams on salmon, steelhead, Oregon chub, and bull trout. Implementation of a BiOp measure related to hatchery fish in the McKenzie River was the subject of litigation in Federal District Court. The Action Agencies are currently engaged in discussion with NOAA related to BiOp implementation for downstream passage and for hatchery consultations.

Under these collective BiOps, the Action Agencies have committed to implement hydro, habitat, hatchery, and other actions throughout the Columbia River Basin to address impacts stemming from the operation of the federal hydro-electric dams on ESA-listed fish, and to ensure that operations of the federal dams do not jeopardize the continued existence of the ESA listed species or adversely modify their designated critical habitat.

The Action Agencies also signed the 2008 Columbia Basin Fish Accords (Fish Accords or Accords) with five Northwest Tribes and the states of Idaho and Montana. In 2009, an agreement was signed with the state of Washington and federal agencies (the state of Washington Estuary agreement). And in 2012, the Action Agencies signed an agreement with the Kalispel Tribe of Indians covering Albeni Falls Dam and FCRPS operations. Wildlife settlement agreements have been signed with the states of Oregon and Idaho to help complete mitigation for the flooding and inundation caused by FCRPS dams operating in those states. These Fish Accords and settlements complement the BiOps and provide firm commitments to prioritize mitigation actions and secure funding over the life of the agreements.

As noted above, BiOps, Fish Accords, and wildlife settlement commitments are integrated along with other projects and implemented through the Program under the Northwest Power Act. They provide the basis for the Bonneville Fish and Wildlife Program's planned capital investment.

Accomplishments

- Released initial rate proposal for FYs 2018-2019 rates on November 17, 2016.
- Facilitated integration of 5,081 MW of wind generation through September 2016.
- Completed governor oil filtration system installation and vibration and air gap monitoring projects at Bonneville Dam.
- Completed powerhouse and dam electrical distribution equipment replacement at Libby.
- Completed turbine runner replacement at Palisades.
- Completed transformer replacement at Green Springs.
- The returns of adult salmon and steelhead to the Columbia River system from 2009 to 2014 vary by species, but many stocks (especially Snake River fall Chinook and Snake River sockeye) have returned at the highest numbers in decades. Research shows that survival of juvenile salmon and steelhead migrating down the Snake and Columbia rivers has improved in recent years and is on track to meet performance standards of 96 percent survival per dam for spring-migrating fish and 93 percent survival for summer migrants.

Explanation of Changes

Bonneville's budget includes $315.3 million in FY 2018 for Power Services capital, which is an 8.4 percent increase over the FY 2017 forecasted level. The FY 2018 level reflects a continuing need for investment in the hydroelectric system assets and funding necessary to implement the BiOps, Fish Accords, and Columbia Basin Fish and Wildlife activities.

The FY 2018 budget increases the levels for Associated Projects (+$18.5 million) and Fish & Wildlife (+$5.9 million), relative to FY 2017. In addition, The FY 2018 Budget Request proposes that the Federal government be authorized to see the transmission assets of Bonneville.

Strategic Management

Bonneville provides electric power while supporting the achievement of its vital responsibilities for fish and wildlife, energy efficiency, renewable resources, and low-cost power in the Pacific Northwest region. Bonneville will continue to implement the following strategies to serve the region:

1. Bonneville coordinates its power operational activities with the Corps, Reclamation, NERC, regional electric reliability councils, its customers, and other stakeholders to provide the most efficient use of federal assets.
2. Ongoing work with the Corps and Reclamation is focused on improving the reliability of the FCRPS, increasing its generation efficiency, and optimizing hydro facility operation.
3. Bonneville is committed to funding efforts to protect listed fish and wildlife species in the Columbia Basin under the ESA and working closely with the Council, regional fisheries managers, and other federal agencies to prioritize and manage projects to mitigate fish and wildlife affected by the FCRPS.
4. Bonneville's utility customers have been, and continue to be, a critical part of Bonneville's collaborative efforts to promote and foster the efficient use of energy.
5. Bonneville has assisted with a DOE Wind Power crosscutting initiative to strengthen energy security.

The following external factors present the most significant risk and impact to overall achievement of the program's strategic goals:

1. Continually changing regional economic and institutional conditions;
2. Competitive dynamics; and
3. Ongoing changes in the electric industry.

Associated Projects

Overview

Bonneville will work with both the Corps and Reclamation to reach mutual agreement on budgeting and scheduling those capital improvement projects that are cost-effective and provide system or site-specific enhancements, increase system reliability, or provide generation efficiencies.

The work is focused on improving the reliability of the FCRPS and on increasing its generation efficiency or capacity through turbine runner replacements, optimizing hydro facility operation, and new unit construction. Also, limited investments may be made in joint-use facilities that are beneficial to both the FCRPS operations and to other Corps and Reclamation project purposes.

Corps of Engineers Projects

($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
148,804	175,850	169,109

Bonneville Dam:

- FY 2016. Completed governor oil filtration system installation and vibration and air gap monitoring projects. Continued powerhouse 2 transformers refurbishment, generator step-up (GSU) transformer instrumentation, and main unit breaker and station service reconfiguration.
- FY 2017. Complete powerhouse 2 transformer refurbishment. Continue main unit breaker and station service reconfiguration, and GSU transformer instrumentation. Begin powerhouse 2 tailrace gantry crane rehabilitation, powerhouse 2 Roof replacement, and fire protection projects for the control room and both oil storage rooms.
- FY 2018. Complete GSU transformer instrumentation and powerhouse 2 roof replacement. Continue main unit breaker and station service reconfiguration, tailrace gantry crane rehabilitation, and fire protection projects.

John Day Dam:

- FY 2016. Completed governor replacements and DC system upgrades. Continued Baldwin-Lima Hamilton (BLH) turbine hub upgrades, control room fire protection upgrades, transformer and powerhouse oil/water separator, rotor pedestal installation, and station service transformer replacements. Began 500kV disconnect replacement.
- FY 2017. Complete draft tube bulkhead refurbishment and rotor pedestal installation. Continue BLH turbine hub upgrades, control room fire protection upgrades, 500kV disconnect replacement, rotor pedestal installation, and station service transformer replacement. Begin SQ board (switchgear) replacement, emergency gantry crane replacement, and powerhouse oil detection system installation.
- FY 2018. Complete 500kV disconnect replacement, station service transformer replacements, rotor pedestal installation, and HVAC system upgrade. Continue SQ board replacement and powerhouse oil detection system installation.

The Dalles Dam:

- FY 2016. Continued tailrace gantry crane refurbishment, transformer replacements, and elevator refurbishments. Began design work for emergency crane rehabilitation, arc flash hazard reduction project, and SR panel (switchgear) replacement.
- FY 2017. Continue elevator refurbishments, transformer replacements, SR panel replacement, arc flash hazard reduction project, and emergency crane rehabilitation. Begin fish unit breaker replacement, intake and tailrace crane rail replacement, and thrust bearing oil coolers installation.
- FY 2018. Continue transformer replacements, fish unit breaker replacement, SR panel replacement, thrust bearing oil coolers, elevator refurbishments, and arc flash hazard reduction projects. Begin design work on fish units runner replacement and generator rewinds.

Willamette Plants:

- FY 2016. Completed Hills Creek Turbine Unit rehabilitation. Completed governor replacements at Big Cliff, Dexter, Detroit, and Lookout Point. Completed spillway tainter gate rehabilitation at Lookout Point, Green Peter, and Hills Creek. Completed electrical reliability upgrades at Dexter. Continued governor replacements at Cougar. Continued design for Detroit spillway tainter gate rehabilitation, electrical reliability upgrades at Foster, as well as bridge crane rehabilitation at Foster. Continued Generic Data Acquisition and Control System (GDACS) installation and communication system upgrade at all Willamette Valley plants.
- FY 2017. Continue Foster bridge crane rehabilitation. Continue Detroit spillway gate rehabilitation and design for electric reliability upgrades at Foster and Lookout Point. Continue GDACS installation and communication system upgrade at all Willamette Valley plants. Continue powerhouse bridge crane refurbishment and design for main unit breaker and electrical reliability upgrades at Green Peter. Begin powerhouse roof replacement at Cougar and turbine platform installations at all Willamette Valley plants.
- FY 2018. Complete digital governor replacements at Cougar. Continue Detroit spillway gate rehabilitation, Foster bridge crane rehabilitation, and GDACS installation at all Willamette Valley plants. Continue powerhouse roof replacement at Cougar and turbine platform installations at all Willamette Valley plants. Continue main unit breaker and electrical reliability upgrades and begin bridge crane replacement at Green Peter. Begin turbine and generator rehabilitation at Foster.

Albeni Falls Dam:

- FY 2016. Continued station service switchgear replacement and design for transformer replacement.
- FY 2017. Continue station service switchgear replacement. Continue design for transformer replacement. Begin design for gantry crane rehabilitation.
- FY 2018. Complete station service switchgear replacement. Continue gantry crane rehabilitation and transformer replacement.

Libby Dam:

- FY 2016. Completed powerhouse and dam electrical distribution equipment replacement. Continued powerhouse DC emergency lighting system installation and control console replacement. Completed governor installation.
- FY 2017. Continue powerhouse DC emergency lighting system installation and control console replacement.
- FY 2018. Complete powerhouse DC emergency lighting system installation and control console replacement. Begin intake gantry crane replacement.

Chief Joseph Dam:

- FY 2016. Continued governor installation, generator cooling system upgrades, DC and preferred AC upgrades, upgrades for station service units SS01 and SS02, and turbine replacements. Began work on upgrading the utility corridor.
- FY 2017. Complete turbine replacements, governor installation, and generator cooling system upgrades. Continue DC and preferred AC upgrade, upgrades for station service units, and generator cooling system upgrades. Complete utility corridor.
- FY 2018. Complete DC and preferred AC upgrade and generator cooling system upgrades. Begin intake and tailrace gantry crane replacement and design for generator rewinds.

Dworshak Dam

- FY 2016. Completed powerhouse Heating, Ventilating, Air Conditioning (HVAC) upgrade. Continued governor replacement. Began Unit 3 rehabilitation. Began exciter replacement and tailrace crane rehabilitation.
- FY 2017. Complete unit 3 stator and cooler replacement. Continue exciter replacement, RO valve upgrade, and tailrace crane rehabilitation.
- FY 2018. Complete exciter replacement and RO valve upgrade. Continue tailrace crane rehabilitation.

McNary Dam

- FY 2016. Continued generator winding replacements and potable water system upgrade. Continued turbine design, 4160-480V station service rehabilitation, and levee drainage pump station upgrades.

- FY 2017. Continue turbine design, main unit cooling water strainers replacement, and 4160-480V station service rehabilitation.
- FY 2018. Continue turbine design and replacement, 4160-480V station service rehabilitation, MU cooling water strainers replacement. Begin drainage system oil water separator and spillway gate rehabilitation.

Ice Harbor Dam
- FY 2016. Completed purchase of tailrace stoplogs. Continued Units 1-3 runner replacements and stator winding replacement.
- FY 2017. Continue Units 1-3 runner replacements and stator winding replacements. Begin main unit surface air cooler upgrades.
- FY 2018. Continue Units 1-3 runner replacements, stator winding replacements, and main unit surface air cooler upgrades. Begin station service transformer replacements and 115kV disconnect upgrade.

Little Goose Dam
- FY 2016. Completed governor installation. Purchased spare tailrace stoplogs. Continued station service transformers replacement and bridge crane rehabilitation.
- FY 2017. Continue station service transformers replacement and bridge crane rehabilitation. Begin drainage and unwatering pump replacement and oil water separator projects.
- FY 2018. Complete station service transformers replacement, bridge crane rehabilitation, and oil water separator project. Continue drainage and unwatering pump replacement.

Lower Granite Dam
- FY 2016. Continued powerhouse HVAC system upgrade, Unit 1 BLH linkage upgrade, governor replacement, and bridge crane rehabilitation.
- FY 2017. Complete Unit 1 BLH linkage upgrade, powerhouse HVAC system upgrade, and governor replacement, and bridge crane rehabilitation.
- FY 2018. Begin isophase bus and housing upgrade and DC system and LV switchgear upgrade. Purchase spare main unit bearing.

Lower Monumental Dam
- FY 2016. Continued Unit 1 BLH linkage upgrade and generator rewind. Continued governor replacement.
- FY 2017. Complete Unit 1 BLH linkage upgrade and generator rewind. Continue governor replacement. Begin drainage and unwatering pump replacement.
- FY 2018. Continue governor replacement and drainage and unwatering pump replacement.

Bureau of Reclamation Projects
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
38,178	70,407	95,655

Grand Coulee Dam

- FY 2016. Continued Supervisory Control and Data Acquisition (SCADA) replacement, Units 1-18 stator windings, cores, and spare replacement program, Units 1-18 exciter and governor replacement, and station service compressed air system upgrades. Began Units 22 and 23 wicket gate replacements and firehouse replacement work.
- FY 2017. Complete Units 22 and 23 wicket gate replacements. Continue SCADA replacement, G22-24 wear ring replacements, Units 1-18 windings, core, exciter and governor replacements, firehouse replacement and compressed air system upgrades. Begin Units 11-18 transformer replacements.
- FT 2018. Complete firehouse replacement. Continue SCADA replacement, Units 11-18 transformer replacements and G22-24 wear ring replacements, Units 1-18 windings, core, exciter and governor replacements, and compressed air system upgrades. Begin crane control upgrades, G19-21 modernization, and Third Powerplant roof replacement.

Keys Pump Generating Plant

- FY 2016. Continued P1-P6 exciters, relays and unit controls, PG7-PG12 governors, exciters, relays and unit controls. Continued PG7-PG12 circuit breaker replacement, and P5 and P6 impeller and core replacement and rewinds. Began phase reversal switch replacement.
- FY 2017. Complete PG7-PG12 circuit breaker replacement. Continue P5 and P6 impeller and core replacement and rewinds. Continue P1-P6 exciters, relays and unit controls and PG7-12 governors, exciters, relays and unit controls. Continue phase reversal switch replacement.
- FY 2018. Continue P5 and P6 impeller and core replacement and rewinds. Continue P1-P6 exciters, relays and unit controls and PG7-12 governors, exciters, relays and unit controls. Continue phase reversal switch replacement.

Hungry Horse Dam

- FY 2016. Continued SCADA replacement and main unit transformer fire protection system replacement.
- FY 2017. Continue SCADA replacement, and main unit transformer fire protection system replacement. Begin powerplant crane controls and control room panel revisions.
- FY 2018. Continue powerplant crane controls, SCADA replacement, control room panel revisions, and main unit transformer fire protection system replacement.

Chandler Dam

- FY 2016. No capital projects underway.
- FY 2017. Begin Units 1 and 2 generator rewinds.
- FY 2018. Continue Units 1 and 2 generator rewinds.

Palisades Dam

- FY 2016. Completed turbine runner replacement. Continued microwave system backbone eastside. Began switchyard modernization.
- FY 2017. Continue microwave system backbone eastside and switchyard modernization. Begin arc flash mitigation.
- FY 2018. Continue microwave system backbone eastside, switchyard modernization, and arc flash mitigation.

Green Springs Dam

- FY 2016. Completed transformer replacement. Began exciter replacement.
- FY 2017. Continue exciter replacement.
- FY 2018. Continue exciter replacement.

Black Canyon Dam

- FY 2016. No capital projects underway.

- FY 2017. Begin installation of new unit, switchyard replacement, trash rake system, and Units 1 and 2 upgrades.
- FY 2018. Continue new unit installation, switchyard replacement, trash rake system, and units 1 and 2 upgrades.

Anderson Ranch Dam
- FY 2016. Continued station service upgrade.
- FY 2017. Complete station service upgrade.
- FY 2018. No planned capital projects.

Roza Dam
- FY 2016. Began switchyard rehabilitation and breaker upgrade.
- FY 2017. Continue switchyard rehabilitation and breaker upgrade.
- FY 2018. Continue switchyard rehabilitation and breaker upgrade.

Minidoka Dam
- FY 2016. Continued arc flash mitigation, Units 8 and 9 governor replacement, and microwave system backbone eastside. Begin switchyard modernization.
- FY 2017. Complete Units 8 and 9 governor replacement. Continue switchyard modernization, arc flash mitigation, and microwave system backbone eastside.
- FY 2018. Continue switchyard modernization, arc flash mitigation, and microwave system backbone eastside.

Fish & Wildlife
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
16,030	44,602	50,532

Overview

Bonneville continues to develop budgets for the suite of fish and wildlife mitigation projects originally adopted in FY 2007 based on recommendations from the Council. Bonneville reaffirmed and expanded many project-specific commitments in subsequent agreements and processes, including BiOps and Fish Accords, and since then, virtually all these projects received independent science review through the Council and its project review processes. Bonneville's funding decisions embrace many of the management objectives and priorities in the Program and continue to integrate ESA responsibilities as described in the NOAA Fisheries' and USFWS's FCRPS BiOps. Coordination continues among Bonneville, Council, federal resource management agencies, states, tribes, and others to support the projects that satisfy Bonneville's mitigation responsibilities.

Bonneville intends to continue implementing the kinds of capital projects listed below. These projects are based upon the best available science and are regionally important in that they provide high priority mitigation and protection actions for fish and wildlife populations affected by the construction and operation of the FCRPS dams. Projects and facilities listed below deliver direct on-the-ground benefits to both ESA listed and non-listed fish and wildlife throughout the Columbia River Basin and have been evaluated and coordinated with the Council, state, federal and tribal fish and wildlife resource managers, local governments, watershed and environmental groups, and other interested parties. Specifically, as capital construction projects, hatchery facilities typically go through the Council's three-step process, which includes development of a Master Plan, environmental compliance, ESA consultation, value engineering analysis, and review by the Independent Science Review Panel.

The three types of fish and wildlife projects that Bonneville capitalizes are as follows:

1) Fish passage structures – Structures funded with capital that enhance fish access to habitat in the Columbia River Basin include wells, ladders, screens, pumping, culverts, diversion (irrigation) consolidation, piping to reduce water loss, irrigation efficiencies (drip irrigation), lining of ditches (seepage reduction), removal of objects impeding fish passage or pushup dams, and construction-related habitat restoration.
2) Hatchery facility construction – Projects and activities relating to the construction, improvement, and replacement of fish hatcheries, including related satellite facilities (acclimation ponds and collection weirs). This may also include construction-related habitat restoration.
3) Land acquisition and stewardship – Land acquisition projects protect, enhance, and maintain instream wetland and riparian habitat and provide credit to Bonneville, such as habitat units (HUs) or acres for wildlife or instream miles for resident fish, to fulfill the legal obligation of Bonneville to mitigate the impacts from construction and operation of the FCRPS.

Fish supplementation, production, and related facilities that may require capital funds in FY 2018 include the following:

<u>The Consolidated Appropriations Act, 2016 (Public Law 114-113) provided Expenditure Authority for the following projects:</u>
- Shoshone Paiute Trout Hatchery: The Shoshone Paiute Tribes of the Duck Valley Reservation propose that Bonneville fund the purchase and/or construction of a trout hatchery. The Tribes would own and operate the hatchery to produce trout for stocking in reservoirs located on the Duck Valley Reservation. Bonneville would fund the capital expenditure to meet contemporary aquaculture standards and achieve fish production goals. The Tribes believe they can reduce federal reservoir stocking costs—some of which Bonneville pays now on an annual basis.
- Spokane Tribal Hatchery: The Spokane Tribal Hatchery, funded by Bonneville in 1989 as partial mitigation for the impacts of the FCRPS, is owned and operated by the Spokane Tribe of Indians. The facility spawns, incubates, and rears Kokanee salmon and rainbow trout near Wellpinit, WA. In June 2015, the Tribe and Bonneville signed a 20-year agreement renewing

commitments to operate and maintain the facility. The renewed agreement also plans to upgrade aging infrastructure, including ground water pumps and rearing containers. The work is scheduled to begin in FY 2017.

- Snake River Sockeye Weirs: Bonneville funds efforts implemented by the Idaho Department of Fish and Game and the Shoshone Bannock Tribes to rebuild Snake River sockeye throughout their historic range. The combination of substantially increased numbers of returning adults as well as the completion of the Springfield Sockeye Hatchery in 2013 and its associated increased production has created the need for Bonneville to potentially fund the construction, operation, and maintenance of weirs to further sockeye management objectives.

The FY 2014 Omnibus Appropriations Act (Public Law No. 113-76) provided Expenditure Authority for the following projects:

- John Day Reprogramming and Construction: This project is being proposed by the Columbia River Inter-Tribal Fish Commission (CRITFC) under the Accords to work on the balance between upriver and down river salmon hatchery production mitigating for John Day and The Dalles Dams. Final reprogramming facilities and locations are still being analyzed by the Tribes, the Corps, and Bonneville. The project area encompasses the mainstem Columbia River from the base of McNary Dam downstream to The Dalles Dam. Capital dollars for this project will integrate with the Corps funds constructing additions to new or existing FCRPS hatchery facilities to accommodate the reprogramming of hatchery fish.

- Columbia River Basin White Sturgeon Hatchery: This project, proposed by the CRITFC under the Accords, will mitigate for white sturgeon population declines due to consistent poor recruitment upstream of Bonneville Dam. Expected production at a new or existing facility will be 15,000 - 20,000 yearling white sturgeon per year. The final project may include broodstock collection and holding, rearing wild-spawned juveniles, and acclimating juveniles prior to release. A location for the facility has not yet been determined, but it will likely be located within 60 miles of the confluence of the Columbia and Snake Rivers. The Master Plan for the hatchery is currently under review by the Council.

- Kelt Reconditioning and Reproductive Success Evaluation Research: CRITFC, under the Accords, is proposing a relatively small holding tank facility to recondition female steelhead (kelts) after they have spawned. The fish will be held and fed until they have rematured and then be released into the Snake River where they will contribute to the spawning run. The capital portion of the project is expected to be constructed in the Snake River Basin, potentially at Lower Granite Dam. As specified in the 2008 FCRPS BiOp and Supplemental FCRPS BiOps issued in 2010 and 2014, Bonneville will implement the kelt reconditioning plan to improve the productivity of Snake River basin B-run steelhead populations that are listed for protection under the ESA. NOAA's analysis of Prospective Actions indicates that a combination of transportation, kelt reconditioning, and in-stream passage improvements (e.g., spill-flow modifications) could increase kelt returns enough to increase the number of returning Snake River B-run steelhead spawners to Lower Granite Dam by a target of six percent. The Master Plan for the facility is currently being reviewed by Bonneville.

Ongoing Projects (Expenditure Authority previously received):

- Crystal Springs Hatchery Facilities: This proposed project is for facilities for rearing and out-planting resident and anadromous fish in central and southern Idaho. The facility would be located near the American Falls Reservoir in Idaho. It may produce Yellowstone cutthroat, a resident fish, and anadromous fish including Snake River spring Chinook salmon, Snake River steelhead, and Snake River sockeye. The facility is expected to produce up to one million Chinook smolts annually. The facility is sponsored by the Shoshone-Bannock Tribes under their Accord, who are expected to operate and manage the facility once it is complete. A final Environmental Impact Statement is expected to be complete in FY 2017 and a Record of Decision is expected late in FY 2017.

- Redfish Lake Sockeye Salmon program: The Snake River sockeye salmon, an Evolutionarily Significant Unit (ESU), was listed under the Endangered Species Act in 1991 (56 FR 58619). The Snake River Sockeye Salmon Captive Broodstock Program has prevented the extinction of endangered Snake River sockeye salmon. The program has been able to help successfully conserve the genetic resources of the founding population and begun producing fish for rebuilding the naturally spawning population in Redfish Lake. The program uses state of the art hatchery facilities and fish husbandry protocols, genetic support, and monitoring and evaluation to continue rebuilding numbers of fish. Currently, the program retains replicate,

captive broodstock within multiple facilities (Eagle Fish Hatchery located in Idaho state and Burley Creek Fish Hatchery and Manchester Research Station, both located in Washington state). Eggs produced from these locations are transferred to other facilities (Springfield Fish Hatchery and Burley Creek Fish Hatchery) for release programs. The project continues to expand by increasing the capacity of existing facilities and also by acquiring a new facility under the Idaho Fish Accord. The newly constructed Springfield Fish Hatchery located in Idaho produces additional smolts as called for in the NOAA Fisheries FCRPS BiOp. The expanded smolt releases have already resulted in an increase in the abundance and productivity of the naturally-spawning population. This strategy will greatly increase the likelihood of higher adult returns. Additional expansions include improvements at the Redfish Lake Creek trap and Sawtooth Fish Hatchery weir to hold/trap an increased number of adults to support increased smolt production from Springfield Fish Hatchery. The biological goals are to increase the number of adults spawning naturally in the Sawtooth Valley and transition the captive broodstock to a conventional hatchery production program that uses anadromous adults as broodstock.

- Klickitat Production Expansion: The Klickitat River Master Plan was submitted by the Yakama Nation, reviewed by the ISRP, recommended with comments by the Council, and approved by Bonneville in 2008. The plan's goal is to protect and increase naturally producing populations of spring Chinook and steelhead while protecting the biological integrity and the genetic diversity of indigenous fish stocks in the sub-basin. The Klickitat Master Plan includes the following main elements: Lyle Falls Fishway upgrades; construction of the Castile Falls enumeration facility; upgrades to the Klickitat hatchery with the potential for constructing a new facility in the lower Klickitat River to accommodate the ongoing production of coho and fall Chinook; and an acclimation site in the upper watershed at McCreedy Creek. In early 2009 Bonneville completed the Lyle Falls Environmental Impact Statement (EIS) and Record of Decision (ROD). Upgrades to enumeration and collection facilities at Lyle and Castile have been completed. Certain upgrades at the Klickitat Hatchery have also been made to maintain existing fish and wildlife program activities and to address hatchery safety concerns. Lyle and Castile Falls fishways have passive integrated transponder (PIT) tag interrogation capability, and the Lyle Falls facility includes a lamprey passage structure. A new Klickitat Hatchery Complex EIS initiated in July 2009 will examine options for the development and operation of new production and supplementation facilities, acclimation alternatives, and additional upgrades to the existing hatchery facility. The Yakama Nation issued a revised Master Plan, July 2012, providing updates to their fish management plans. The final EIS has been on hold while the Yakama Nation refines its proposal. The National Environmental Policy Act (NEPA) process will resume shortly after the tribe settles on its proposal. Construction would occur only after Bonneville issues a ROD and the National Marine Fisheries Service (NMFS) completes the BiOp for the Klickitat Production and Fish Management plans. Bonneville is working with the Yakama Nation to identify and focus on the highest priority construction actions in the Klickitat Watershed.

- Hood River Production Facility: This project has been ongoing since the early 1990s. It currently produces 150,000 spring chinook salmon smolts and 50,000 winter steelhead smolts annually. The Powerdale Dam Fish Trap formerly provided the foundation for many of the activities associated with implementation of the Hood River Production Program. These include monitoring escapement, collecting life history characteristics, and broodstock acquisition. PacificCorps' demolition of its Powerdale Dam and the associated fish trapping facility in 2010 necessitated the development of alternative adult broodstock trapping sites. One permanent fish trap on the West Fork of the Hood River was completed in 2013, and a temporary trapping site is operational on the East Fork Hood River. A permanent trap site on the East Fork is currently being evaluated. The Hood River Production Program has four primary goals: 1) re-establish naturally sustaining runs of spring Chinook in the Hood River; 2) re-build naturally sustaining runs of summer and winter steelhead in the Hood River; 3) maintain genetic characteristics of Hood River fish populations; and 4) provide fish for sustainable harvest by both sport and tribal fishers.

- Mid-Columbia Coho Restoration: This Yakama Accord project's vision is to re-establish naturally reproducing coho salmon populations in the Wenatchee River and Methow River sub-basins at biologically sustainable levels which provide significant harvest in most years. This program will construct a facility on the Wenatchee River for holding and spawning broodstock, incubating eggs, and rearing juveniles. Additional semi-natural ponds will also be constructed in the Wenatchee and Methow sub-basins for acclimating smolts prior to their release. The phased approach, including associated facilities, incorporates development of a mid-Columbia hatchery broodstock, local adaptation to tributaries in the Wenatchee and Methow Basins, and habitat restoration that will benefit coho as well as ESA-listed spring Chinook, steelhead, and bull trout. Major facility construction is expected to occur over the FYs 2017-2018 timeframe.

- Walla Walla Hatchery: The Walla Walla Hatchery is proposed by the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) under their Accord. The Tribes would own and operate the hatchery, which will produce up to 500,000 spring Chinook smolts annually for release into the Walla Walla River. A 30 percent design was completed in June 2015, however due to budget overruns, the project has been on hold. A draft EIS was completed in September 2016. Rebid for design completion and construction is expected to be solicited by June 2017, with construction commencing in late 2018 or early 2019. The facility will hold, spawn, incubate and rear spring Chinook on the South Fork Walla Walla River near Milton-Freewater, Oregon.

- Yakima Coho Facility: This hatchery is proposed by the Confederated Tribes and Bands of the Yakama Nation under the Yakama Nation Accord, and is presented in the Yakima River Subbasin Summer and Fall Run Chinook and Coho Salmon Hatchery Master Plan. The Yakama Nation would own and operate the hatchery which will produce up to 700,000 coho smolts using broodstock collected at Roza and Sunnyside dams. Bonneville holds the design and construction contract on behalf of the Yakama Nation. The 50 percent design is complete and the 90 percent design is undergoing internal review. Bonneville published a draft EIS on March 17, 2017, and expects to publish a final EIS by October 2017 and a Record of Decision by November or December 2017. If approved, construction would likely begin in spring 2018.

Potential non-construction capital Wildlife and Resident Fish Habitat Acquisitions (including Conservation Easements) eligible for capitalization are:

- Albeni Falls Wildlife Mitigation
- Willamette Wildlife Habitat Acquisitions
- Libby and Hungry Horse Reservoirs Resident Fish Acquisitions
- Southern Idaho Habitat Acquisitions

Activities and Explanation of Changes

FY 2017 Estimate	FY 2018 Estimate	Explanation of Changes FY 2018 vs FY 2017 Estimate
Power Services – Capital $290,859,000	**$315,296,000**	**+$24,437,000**
Associated Projects $246,257,000 Milestones[1]: • Complete Units 22 and 23 wicket gate replacements at Grand Coulee. • Complete station service switchgear replacement at Albeni Falls. • Complete powerhouse DC emergency lighting system installation and control console replacement at Libby. • Complete powerhouse 2 transformer refurbishment at Bonneville dam.	**$264,764,000** Milestones: • Complete firehouse replacement at Grand Coulee. • Complete DC and preferred AC upgrade and generator cooling system upgrades at Chief Joseph. • Complete exciter replacement at Dworshak. • Complete 500kV disconnect replacement, station service transformer replacements, rotor pedestal installation and HVAC system upgrade at John Day.	**+$18,507,000/+7.5%** • The increase reflects a reshaping of funding needs for investment in the hydroelectric system assets.
Fish & Wildlife $44,602,000 Milestones: • Continue implementation of the Program, BiOps and Fish Accords.	**$50,532,000** Milestones: • Continue implementation of the Program, BiOps and Fish Accords.	**+$5,930,000/+13.3%** • The increase reflects a long-term, planned effort to reshape funding necessary to implement the BiOps, Fish Accords, Columbia River Basin Fish and Wildlife activities.

[1] FY 2017 milestones have been updated from the FY 2017 Congressional submission due to updated forecasts.

Transmission Services – Capital
Funding Schedule by Activity
Funding ($K)

	FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate	FY 2018 vs FY 2017 $	FY 2018 vs FY 2017 %
Transmission Services – Capital					
Main Grid	16,347	48,544	4,748	-43,797	-90%
Area & Customer Services	52,951	100,757	74,865	-25,892	-26%
Upgrades & Additions	73,483	70,390	74,668	4,278	6%
System Replacements	134,687	311,006	285,153	-25,853	-8%
Projects Funded in Advance	272,432	42,010	40,107	-1,903	-5%
Total, Transmission Services - Capital	**549,900**	**572,707**	**479,541**	**-93,166**	**-16%**

Outyears ($K)

	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
Transmission Services - Capital					
Main Grid	4,748	48,225	99,203	104,484	127,097
Area & Customer Services	74,865	45,783	41,614	57,600	47,432
Upgrades & Additions	74,668	68,363	52,029	52,759	52,031
System Replacements	285,153	295,998	398,296	372,692	370,990
Projects Funded in Advance	40,107	38,937	36,025	34,837	34,774
Total, Transmission Services - Capital	**479,541**	**497,306**	**627,167**	**622,372**	**632,324**

Transmission Services – Capital

Overview

Transmission Services (TS) is responsible for about 75 percent of the Pacific Northwest's high-voltage transmission. TS provides funding for all additions, upgrades, and replacements to the Bonneville transmission system, resulting in reliable service to northwest generators and transmission customers. The Bonneville transmission system also facilitates the sale and exchange of power to and from the region. The TS Capital Program is structured with a balanced focus on Expansion and Sustain investments.

TS continues to make significant infrastructure improvements and additions to the system to assure reliable transmission in the Northwest. These improvements and additions will help the Bonneville transmission system continue to comply with national reliability standards, replace aging and obsolete equipment, allow for interconnection of needed new generation, and remove constraints that limit economic trade or the ability to maintain the system. Many of the proposed TS projects will be funded through Bonneville lease-purchase agreements. The lease-purchases obligate Bonneville to make expenditures to acquire the use of the related facilities and are identified on an as needed basis. Bonneville may also make related expenditures to facilitate lease-purchase opportunities. The Budget includes a proposal to authorize the Federal government to sell the transmission assets of Bonneville.

Expansion Investments

Expansion investments continue to make significant infrastructure improvements and additions to the Bonneville transmission system to assure reliable transmission operations in the Northwest. These improvements and additions allow the system to continue to comply with national reliability standards, upgrade aging and obsolete equipment, allow for the interconnection of needed new generation, and remove constraints that limit economic trade or the ability to operate and maintain the system. Internally driven Expansion requests are derived from system engineering studies, technology innovation research, system operations and maintenance functions, and system event analysis. These investments are categorized into:

1. Main Grid – System investments effecting the major interties or internal paths and flowgates that transfer bulk power across the system.
2. Area & Customer Service – System investments related to geographical load service areas.
   3. Upgrades & Additions – Investments listed below.
   a. Upgrading existing system assets versus asset replacement.
   b. Provide security to maintain and operate the system.

c. Provide IT equipment, technologies, and support to maintain and operate the system.

4. Projects Funded in Advance – System investments that are requested, and funded in advance, by customers.

Externally driven Expansion requests are derived from governmental initiatives, consumer demand, and the integration of customer load service and generation needs.

Congressionally-approved Production Tax Credits (PTC) for renewable energy enacted in 2005 were extended in 2009 to 2012, and most recently again in 2013, 2014, and 2015. The PTC begins to phase out after 2018. The incentives created by these credits, along with Renewable Portfolio Standards (RPS) implemented by the states of Oregon, Washington, and California, have spurred a large number of renewable interconnection requests to the Bonneville transmission grid. As of December 31, 2015, Bonneville has interconnected a total of 5,243 MW of new renewable qualified generation. Bonneville has more than 7,000 MW in additional renewable (wind, solar, biomass, geothermal, etc.) interconnection requests still remaining in the study queue. Solar interconnection requests are currently making up the majority of the new requests in Bonneville's queue. The current projections are possibly 8,500 interconnected MW by 2025. Much of the remaining generation demand is the result of the Renewable Portfolio Standards enacted by Oregon and Washington that require utilities to acquire more than 8,000 MW of renewable energy in the Northwest by 2025. Exports to California are limited now by California laws and are expected to remain at 2,000 to 2,500 MW during the same period. Also in the interconnection queue is approximately 800 MW of natural gas fired generation. Efficiency improvements to the FCRPS hydro units that qualify as renewable are also proposed between 2016 and 2022.

In June 2008, Bonneville's first Network Open Season (NOS) received 153 requests from 28 customers for 6,410 MW of new service, about three-fourths for wind energy integration. Bonneville subsequently offered 1,782 MW of new transmission

service on its existing system. Bonneville identified four new Main Grid capital projects from the 2008 NOS: (1) McNary-John Day 500 kV transmission line (part of West of McNary Reinforcements Group 1); (2) Big Eddy-Knight 500 kV transmission line and substation (part of West of McNary Reinforcements Group 2); (3) Central Ferry- Lower Monumental 500 kV Reinforcement (formerly Little Goose Area Reinforcement); and (4) I-5 Corridor 500 kV Reinforcement. Construction of the McNary-John Day 500 kV transmission line is complete and Bonneville has completed construction of the Big Eddy-Knight project and the Central Ferry-Lower Monumental 500 kV Reinforcement project. The I-5 Corridor project environmental review is complete and it is still undergoing further internal review. If all four projects are constructed they will provide almost 6,000 MW of new transmission service.

Bonneville's 2009, 2010, and 2013 NOS windows for new transmission service requests total 8,985 MW, including approximately 4,011 MW of wind project interconnection. The 2010 process identified the Montana to Washington project, for which environmental review was begun, however, the requests to support this project have been subsequently withdrawn and so all work on the project was terminated. The 2013 NOS identified the Monroe-Novelty Hill facilities. Efforts are underway in FY 2017 to review and re-package requests from previous open seasons to determine technical and financial viability.

Sustain Investments

Sustain investments continue maintaining the existing infrastructure to assure reliable transmission in the Northwest. These replacements enable continued compliance with national reliability standards, replace aging and obsolete equipment, and remove constraints that limit economic trade or the ability to maintain the system.

In 2009, TS began implementing best practice frameworks that provide a standardized structure and approach to Asset Management. As a result, TS's Asset Management Strategies, derived from Agency Strategies, drive Bonneville's Asset Plans, which determine its capital and expense investment priorities. Sustain investments are forecasted, prioritized within asset programs, and optimized across the asset base for asset planning and approval. We now bundle both sustain and expand capital projects in an effort to improve executability and lower risks and costs. TS's capital program is still fluid and subject to changes as the complexity of the transmission system produces unexpected needs resulting from equipment failure, climate/weather incidents, changes in performance and/or operation of connected systems, outage schedules and conflicts, updated regulations, etc. For these and other reasons, specificity with Sustain investments in the transmission system is somewhat limited.

The TS Sustain Program Asset Programs include:

1. Steel Lines – Transmission lines with steel structures including footings, insulators assemblies, vibration dampers, grounding systems, conductor, ground wire.
2. Wood Lines – Transmission lines with wood structures including cross arm systems, insulator assemblies, vibration dampers, grounding systems, conductor, ground wire.
3. Rights-of-Way – Real property including land parcels, easements, use right, access roads.
4. AC Substations – Substations managing AC current including transformers, reactors, shunt capacitors, power circuit breakers, circuit switchers, series capacitors, disconnect switches.
5. Power System Controls and System Telecommunications – Control and communication equipment including SCADA, transfer trips, fiber, communications, SONET, Telephone, RAS.
6. System Protection and Control – Control equipment including relays, Control Houses, meters.
7. DC Substations – Celilo DC converter station, Static VAR Compensators, DC control systems.
8. Control Centers – Various control equipment and software.
9. Tools and Equipment Acquisition Program (TEAP) –Tools, equipment, fleet.
10. Facilities – Non-electric facilities including warehouses, operational structures, hanger, maintenance centers.
11. Aircraft – Fixed wing and rotary aircraft.

Notwithstanding that the capital program for TS is subject to change, Bonneville has identified several general areas where capital program investment will occur.

Bonneville will continue to fund fiber optic communications facilities needed to meet Bonneville's projected operational needs. To the extent that these investments create temporary periods of excess fiber optic capacity, such dark fiber capacity can be made available to telecommunications providers and to non-profits to meet public benefit internet access needs for rural areas and other needs in Bonneville's service area. Bonneville's investments in fiber optics, including the role of the private sector in building fiber optic networks, is consistent with the "Fiber Optic Cable Plan" submitted to Congress on May 24, 2000, accompanying the FY 2000 Energy and Water Development Appropriations Act. In accordance with this plan, when possible, Bonneville will establish partnerships with fiber optic facility and service providers to meet its needs.

In December 2004, Congress passed and the President signed the Commercial Spectrum Enhancement Act (CSEA, Title II of P.L. 108-494), creating the Spectrum Relocation Fund (SRF) to streamline the relocation of federal systems from certain spectrum bands to accommodate commercial use by facilitating reimbursement to affected agencies of relocation costs. The Federal Communications Commission has auctioned licenses for reallocated federal spectrum, which will facilitate the provision of Advanced Wireless Services to consumers. Funds were made available to agencies in FY 2007 for relocation of communications systems operating on the affected spectrum. These funds are mandatory and will remain available until expended, and agencies will return to the SRF any amounts received in excess of actual relocation costs. The estimated Bonneville cost of this relocation was $48.7 million. The project was completed in November 2013 with a cost of approximately $40 million and the operational system performance was being observed during FY 2014 and early FY 2015 to determine that it has achieved comparable capability as defined under the CSEA. Bonneville determined in December 2014 that comparable capability had been achieved.

Bonneville began participating in a new spectrum relocation effort in FY 2015. The NTIA has approved and, in July 2014, web-posted federal agency relocation plans, including the Bonneville relocation plan. The FCC held an auction of this spectrum on November 13, 2014. Bonneville received an additional $5.2 million from the Spectrum Relocation Fund on July 29, 2015, to fully pay for this new relocation effort, including, as in the prior relocation, the purchase and installation of new digital radio equipment.

As part of the Homeland Security Presidential Directives, Bonneville has completed a physical security assessment of all critical facilities and is implementing security enhancements at these facilities. These security enhancements increase controlled access to Bonneville's facilities and provide video surveillance and monitoring capabilities.

Accomplishments

- Released initial rate proposal for FYs 2018-2019 rates on November 17, 2016.
- Integrated 5,081 MW of wind through September 2016 on Bonneville's transmission system.
- Completed the modernization of the Celilo Converter Station.
- Completed construction of the Big Eddy-Knight Transmission Project.
- Completed construction of the Central Ferry-Lower Monumental Transmission Project.

Explanation of Changes

Bonneville's budget includes $479.5 million in FY 2018 for TS which is a 16.3 percent decrease from the FY 2017 forecasted level. The decrease reflects reduced investment in Main Grid, Area & Customer Services, and Systems and Replacements, driven by a reduction in projected spending needs as projects near completion, and an increase in Upgrades and Additions, driven by an increase in various other projects.

The FY 2018 budget decreases the levels for Main Grid (-$43.8 million), Area & Customer Services (-$25.9 million), System Replacements (-$25.9 million) and PFIA (-$1.9). The budget increases levels for Upgrades & Additions (+$4.2 million). In addition, The FY 2018 Budget Request proposes that the Federal government be authorized to sell the transmission assets of Bonneville.

Strategic Management

Bonneville provides transmission and energy services while integrating renewable resources in the Pacific Northwest. Bonneville will continue to implement the following strategies to serve the region:

1. To improve system adequacy, reliability, and availability, Bonneville has embarked on major transmission infrastructure projects. The projects reinforce the region's transmission system and help deliver the region's future power needs. These projects address multiple challenges, such as integration of renewable energy, the need to relieve a number of congested transmission paths, the challenge to keep up with growing energy demands, and the need to meet changing regulatory and customer requirements.

2. Open access policy in support of competitive markets for load and generation.

3. Replacement of aging assets that are vital to the reliability of the existing transmission system. To that end, TS has developed specific long-term strategies for the following asset categories:
    a. Substations AC
    b. Power System Control/System Telecommunications
    c. Wood Lines
    d. Steel Lines
    e. Rights of Way (ROW), (Land Rights, Access Roads, and Vegetation Management)
    f. System Protection and Control
    g. Control Center
    h. Non-Electric Facilities

The following external factors present the strongest impact to overall achievement of the program's strategic goal:

- Continually changing economic and institutional conditions
- Competitive dynamics
- Ongoing changes in the electric industry
- Siting issues

Main Grid
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
16,347	48,544	4,748

Overview

Bonneville's strategic objectives for Main Grid projects are to assure compliance with the NERC and Western Electricity Coordinating Council (WECC) reliability criteria, provide voltage support, provide a reliable transmission system for open access, and provide for relief of transmission system congestion. During this budgeting period, projects are planned that will provide transmission reinforcement and voltage support to major load areas that are primarily west of the Cascade Mountains.

Continued investments in Main Grid assets include:

I-5 Corridor Reinforcement

- FY 2016. Continued NEPA work.
- FY 2017. Complete NEPA work and determine path forward.
- FY 2018. Execute on path forward.

Big Eddy-Knight (West of McNary Reinforcements Group 2)

- FY 2016. Completed construction and energized in November 2015.
- FY 2017. Complete related fiber addition.

Central Ferry-Lower Monumental 500 kV Reinforcement (formerly Little Goose Area Reinforcement)

- **FY 2016**. Completed construction and energized in November 2015.

Schultz Series Capacitors

- FY 2017. Begin design.
- FY 2018. Complete design and begin construction.

Monroe-Echo Lake 500 kV Line Re-termination #2

- FY 2016. Began design.
- FY 2017. Complete design and begin construction.
- FY 2018. Continue construction.

Continue Planning Studies to: (all years)

- Identify infrastructure additions.
- Identify projects driven by NERC and WECC reliability criteria.
- Identify system reactive needs to mitigate unacceptable low or high voltage problems and other system additions.
- Relieve transmission system congestion and integrate new generation facilities.

Area & Customer Service
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
52,951	100,757	74,865

Overview
Bonneville's strategic objective for Area and Customer Service projects is to assure that Bonneville meets reliability standards and contractual obligations to its load service areas.

Continued investments in Area & Customer Service assets include:

Hooper Springs Substation
- FY 2016. Began construction.
- FY 2017. Continue construction.
- FY 2018. Continue construction.

Midway-Grandview 115 kV Line upgrade
- FY 2016. Began construction.
- FY 2017. Continue construction.
- FY 2018. Complete construction.

Puget Sound Area Northern Intertie (PSANI)
- FY 2016. Continued construction.
- FY 2017. Continue construction.
- FY 2018. Complete construction

Alvey Substation Reactors
- FY 2016. Continued construction.
- FY 2017. Complete construction.

McNary Substation 500/230 kV Bank Addition
- FY 2016. Continued construction.
- FY 2017. Complete construction.

Paul Substation 500 kV Shunt Reactor Addition
- FY 2016. Continued construction.
- FY 2017. Complete construction.

Big Eddy Breaker Additions
- FY 2018. Begin design.

Drummond 115kV Breaker Additions
- FY 2016. Began design.
- FY 2017. Complete design and begin construction.
- FY 2018. Complete construction.

Midway –Ashe Double Circuit 230kV Line
- FY 2017. Begin design.
- FY 2018. Complete design and begin construction.

Carlton Substation Upgrade

- FY 2017. Begin design.
- FY 2018. Complete design and begin construction.

Conkelley Substation Retirement

- FY 2017. Begin design.
- FY 2018. Complete design and begin construction.

Continuous Activities (all years)

- Continue preliminary engineering and design for miscellaneous facilities required to meet contractual obligations and maintain reliable service for Bonneville's service area.

Upgrades & Additions
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
73,483	70,390	74,668

Overview

Bonneville's strategic objectives for Upgrades and Additions are to replace older 60 Hz (Hertz) communications and controls with newer technology including fiber optics in order to maintain or enhance the capabilities of the transmission system; to implement special remedial action control schemes to accommodate new generation and mitigate immediate operational and market constrained paths; and to support communications and remedial action schemes, among other proposals.

During this budget period, Bonneville will complete design, material acquisition, construction, and activation of several fiber optics facilities to provide bandwidth capacity and high-speed data transfers to eventually replace microwave analog radios, which are technologically obsolete and nearing the end of their useful life. Temporarily, in some areas, excess dark fiber capacity is being offered for a term to telecommunications providers or to public entities such as public utilities, schools, libraries, and hospitals, providing them access to high-speed telecommunication services as a public benefit.

Continued investments in Upgrades & Additions assets include:

VHF Radio System Upgrade

- FY 2016. Continued construction.
- FY 2017. Continue construction.
- FY 2018. Continue construction.

Synchrophasor Project

- FY 2016. Continued construction.
- FY 2017. Continue construction.
- FY 2018. Complete construction.

Pacific DC Intertie from 3,100 MW to 3,800 MW Project (Celilo Converter Station modernization)

- **FY 2016**. Completed construction.

Ross-Schultz Fiber Circuit Upgrade

- FY 2016. Continued construction.
- FY 2017. Continue construction.
- FY 2018. Continue construction.

Bell-Boundary #DC SONET Ring Upgrade

- **F**Y 2016. Continued construction.
- FY 2017. Complete construction.

Operational Megabit Ethernet (OMET) System

- FY 2016. Continued construction.
- FY 2017. Continue construction.
- FY 2018. Continue construction.

Longhorn Annex for Umatilla Electric Cooperative (UEC)

- FY 2016. Completed construction.

500 kV Spares at Wind Integration Substations

- FY 2016. Began construction.
- FY 2017. Continue construction.
- FY 2018. Complete construction.

Continuous Activities (all years)

- Upgrading two miles of fiber between Bonneville Power House and Bonneville Control House.
- Planning, design, material acquisition, and construction of special remedial action control schemes required for interconnecting new generation projects and mitigating immediate constrained paths.
- Planning, design, material acquisition, and construction of various system additions and upgrades necessary to maintain a reliable system for Bonneville's service area.
- Construction of secondary fiber related projects and digital radio system upgrades to improve the operational telecommunication system.
- Material procurement and construction to upgrade the main fiber optic backbone system (#KC and #NC systems).
- Continue to upgrade control houses and standby engine generators at various locations.

System Replacements
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
134,687	311,006	285,153

Overview

Bonneville's strategic objectives for the Sustain Program are to replace high-risk, obsolete, and maintenance-intensive facilities and equipment and to reduce the chance of equipment failure by: (1) replacing high voltage transformers and power circuit breakers which are at or near the end of their useful life; (2) replacing risky, outdated and obsolete control and communications equipment and systems, including mandated replacements due to legislation; and (3) replacing all other existing high-risk equipment and facilities affecting the safety and reliability of the transmission system. Transmission Services uses a total economic cost model to determine priorities for replacement.

Continued investments in System Replacements assets include:
Continuous Activity (all years)

Non-Electric Replacements

- Continue non-electric replacements as necessary.
- Continue the design, material acquisition, and construction for the Access Road program capital component and the Land Rights program capital component in support of the Lines and ROW Programs.
- Continue design and construction of capital improvements for identified existing facilities.
- Continue replacement of tools, equipment, vehicle fleet, fixed wing aircraft, and rotary aircraft infrastructure.
    - Specific investments include the acquisition of six replacement aircraft (two fixed wing and four rotary) during FY 2017 and FY 2018 to replace, utilizing General Services Administration exchange sale authority, aging assets and to comply with new Federal Aviation Administration regulations.

Electric Replacements

- Continue replacement of system protection and control equipment and other substation and line facilities as needed to maintain reliability using Reliability Centered Maintenance criteria. Such replacements include relays, annunciators, oscillographs, metering, and various types of communication related equipment replacing and migrating analog to digital technology and SCADA equipment.
- Continue replacement of under-rated and high maintenance substation equipment.
- Continue replacing insulators and refurbishing foundations on 500 kV Lines.
- Continue replacement of older generations of digital equipment that is obsolete.
- Continue replacing critical, operational tools and business systems at the Dittmer and Munro Control Centers.
- Continue replacing deteriorating wood pole transmission line structures, spacer dampers, and insulators.

Projects Funded in Advance
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
272,432	42,010	40,107

Overview

This category includes those facilities and/or equipment where Bonneville retains control or ownership but which are funded or financed by a third party or with reserves, either in total or in part.

Continued investments in PFIA assets include:

Continuous Activity (all years)

- Continue to integrate various new generation and line/load projects into Bonneville transmission grid based on requests placed and processed in accordance with transmission tariff.
- Continue planning studies to identify system impacts and needs regarding proposed new generation projects.
- Engineer and begin construction of several large wind generation interconnection substations.
- Complete environmental cleanup and other work necessary for the sale of Bonneville facilities.

Umatilla Electrical Cooperative - Phase 2

- FY 2017. Begin design.
- FY 2018. Complete design and begin construction.

Activities, Milestones, and Explanation of Changes

FY 2017 Estimate	FY 2018 Estimate	Explanation of Changes FY 2018 vs FY 2017 Estimate
Transmission Services – Capital $572,707,000	**$479,541,000**	**-$93,166,000**
Main Grid $48,544,000 Milestones: • Complete NEPA and evaluate the I-5 Corridor Reinforcement project. • Complete design and begin construction of Monroe-Echo Lake 500 kV Line Re-termination #2. • Begin design of Schultz Series capacitors.	**$4,748,000** Milestones: • Continue construction of Monroe-Echo Lake 500 kV Line Re-termination #2. • Complete design and begin construction of Schultz series capacitors.	**-$43,796,000/-90.2%** • The decrease is the result of large projects being completed and a shift in project focus from building new assets to projects focused on replacement of existing aging assets.
Area & Customer Service $100,757,000 Milestones: • Complete construction of Alvey Substation Reactor. • Complete construction of Paul Substation 500kV Reactor. • Complete construction of McNary Substation 500/230kV Bank Addition. • Continue construction of the PSANI project. • Complete design and begin construction of Drummond 115kV Breaker Additions.	**$74,865,000** Milestones: • Complete construction of Midway-Grandview 115kV Line upgrade. • Complete construction of the PSANI project. • Complete construction of Drummond 115kV Breaker Additions. • Complete design and begin construction of Midway-Ashe Double Circuit 230kV line.	**-$25,892,000/-25.7%** • The decrease reflects a change in project timelines as the majority of construction is scheduled in FY 2017.

FY 2017 Estimate	FY 2018 Estimate	Explanation of Changes FY 2018 vs FY 2017 Estimate
Upgrades & Additions $70,390,000 Milestones: • Continue construction of 500kV spares at wind integration substations. • Continue construction at multiple sites of the Synchrophasor project.	**$74,668,000** Milestones: • Complete construction of 500kV spares at wind integration substations. • Complete construction at multiple sites of the Synchrophasor project.	**+$4,278,000/+6.1%** • The increase reflects the purchase of transformers for Spare Transformers for wind projects.
Systems Replacements $311,006,000 Milestones: • Continue design and construction of capital improvements for identified existing facilities. • Continue non-electric replacements as necessary. • Continue replacement of system protection and control equipment and other substation and line facilities as needed to maintain reliability using Reliability Centered Maintenance criteria.	**$285,153,000** Milestones: • Continue design and construction of capital improvements for identified existing facilities. • Continue non-electric replacements as necessary. • Continue replacement of system protection and control equipment and other substation and line facilities as needed to maintain reliability using Reliability Centered Maintenance criteria.	**-$25,853,000/-8.3%** • The decrease reflects a decrease in the number of replacement projects.
Projects Funded in Advanced $42,010,000 Milestones: • Continue to integrate new generation as requested. • Continue planning studies on needs and impacts of proposed new generation.	**$40,107,000** Milestones: • Continue to integrate new generation as requested. • Continue planning studies on needs and impacts of proposed new generation.	**$-1,903,000/-4.5%** • Small decrease, however, milestones remain the same.

Capital Information Technology & Equipment/Capitalized Bond Premium
Funding Schedule by Activity
Funding ($K)

	FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate	FY 2018 vs FY 2017 $	FY 2018 vs FY 2017 %
Capital Information Technology (IT) & Equipment/Capitalized Bond Premium					
Capital IT & Equipment	23,924	25,000	26,860	1,860	7%
Capitalized Bond Premium	0	2,000	2,000	0	-
Total, Capital IT & Equipment/Capitalized Bond Premium	**23,924**	**27,000**	**28,860**	**1,860**	**7%**

Outyears ($K)

	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
Capital Information Technology (IT) & Equipment/Capitalized Bond Premium					
Capital IT & Equipment	26,860	26,860	2,880	14,257	7,267
Capitalized Bond Premium	2,000	2,000	2,000	2,000	2,000
Total, Capital IT & Equipment/Capitalized Bond Premium	**28,860**	**28,860**	**4,880**	**16,257**	**9,267**

Capital Information Technology & Equipment/Capitalized Bond Premium

Overview

Capital Information Technology (IT) provides for the acquisition of general and some dedicated special purpose capital information technologies, and acquisition of special-use capital and IT equipment in support of Bonneville's strategic objectives. This category also includes Bonneville's on-going efforts to facilitate delivery of a highly resilient organization able to anticipate, withstand, and effectively respond to disruptive events affecting it and its partners in the Northwest region. The four main areas of resiliency focus continue to include asset management, emergency management, crisis management, and continuity of operations.

Bonneville continues to move its IT infrastructure to a more efficient architecture. This FY 2018 Budget supports this effort. IT continues to eliminate redundancies in tools and applications, establish an agency-wide IT architecture with standardized IT purchasing criteria, standardize software licensing processes and minimize agency liabilities through stronger contracts, apply continuous improvement practices to IT project management, and implement an agency IT portfolio cost management strategy. The IT estimates in this FY 2018 Budget under Capital IT and Equipment include all IT functions within the agency except TS grid operations. See the Capital Program – TS section of this budget for additional discussion of grid operations-related IT requirements acquisitions.

Capital equipment provides for the acquisition of general and some dedicated special purchases of capital office furniture and equipment.

Bonneville can incur a bond premium when it repays a U.S. Treasury bond before the due date. When bonds are refinanced and premiums are incurred, the bond premiums can be capitalized. Historically, Bonneville generally has chosen to finance capitalized bond premiums with bonds issued to the U.S. Treasury, as envisioned by the Transmission Act.

Capital IT & Equipment
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
23,924	25,000	26,860

Overview

This category includes enhancements to Bonneville's information technology processes to provide cost effective efficiencies for secure, timely, and accurate information. Investments will enable continued enhancements to Bonneville's enterprise systems that are designed to link key information systems throughout Bonneville and improve business processes. Current efforts include continued functional process improvements in areas not included in the initial development phase. Other investments include acquisition of capital office furniture and equipment, capital automated data processing (ADP) based administrative telecommunications equipment, ADP equipment (hardware), and support of capital software development for certain Bonneville programs.

Continued investments in Capital IT & Equipment assets include:
Continuous Activity (all years)
Capital system developments in support of:

- Corporate IT Projects
- IT Infrastructure Projects
- Power IT Projects
- Transmission Services IT Projects (excluding grid operations)

Capitalized Bond Premium
($K)

FY 2016 Current	FY 2017 Estimate	FY 2018 Estimate
0	2,000	2,000

Overview

Continue to assess financial market and when cost-effective, refinance available bonds as prudent.

Activities, Milestones, and Explanation of Changes

FY 2017 Estimate	FY 2018 Estimate	Explanation of Changes FY 2018 vs FY 2017 Estimate
Capital Information Technology & Equipment/Capitalized Bond Premium $27,000,000	**$28,860,000**	**+$1,860,000/6.9%**
Capital Information Technology & Equipment $25,000,000 Milestones: Capital system developments in support of: • Corporate IT Projects • IT Infrastructure Projects • Power IT Projects • Transmission Services IT Projects	**$26,860,000** Milestones: Capital system developments in support of: • Corporate IT Projects • IT Infrastructure Projects • Power IT Projects • Transmission Services IT Projects	**+$1,860,000/7.4%** • The increase reflects a small increase in equipment assets.
Capitalized Bond Premium $2,000,000 Milestones: • Possible refinancing of outstanding federal bonds.	**$2,000,000** Milestones: • Possible refinancing of outstanding federal bonds.	**$0/0%** • No change in funding.

Power Services – Operating Expense
Funding Schedule by Activity
Funding ($K)

	FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate	FY 2018 vs FY 2017 $	FY 2018 vs FY 2017 %
Power Services - Operating Expenses					
Production	1,435,724	1,261,275	1,274,602	13,327	1%
Associated Projects Costs	416,683	463,786	481,232	17,446	4%
Fish & Wildlife	258,142	274,000	277,000	3,000	1%
Residential Exchange Program	218,717	295,540	315,984	20,444	7%
NW Power & Conservation Council	10,720	11,590	11,624	34	0.3%
Energy Efficiency & Renewable Resources	159,768	173,273	169,514	-3,759	-2%
Total, Power Services - Operating Expenses	**2,499,754**	**2,479,464**	**2,529,956**	**50,492**	**2%**

Outyears ($K)

	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
Power Services - Operating Expenses					
Production	1,274,602	1,350,298	1,232,748	1,295,489	1,274,694
Associated Projects Costs	481,232	480,059	493,874	508,132	522,848
Fish & Wildlife	277,000	277,000	281,812	286,915	292,322
Residential Exchange Program	315,984	318,350	251,015	250,645	265,744
NW Power & Conservation Council	11,624	11,914	12,149	12,397	12,658
Energy Efficiency & Renewable Resources	169,514	170,162	173,274	172,634	175,275
Total, Power Services - Operating Expenses	**2,529,956**	**2,607,783**	**2,444,872**	**2,526,212**	**2,543,541**

Power Services – Operating Expense

Overview

Production includes all Bonneville non-federal debt service (including Energy Northwest debt service), O&M costs for power system generation resources (including a large nuclear plant, business operations, and short- and long-term power purchases[3]), electric utility marketing of power, and oversight of the FCRPS hydroelectric projects and CGS. Bonneville develops products and services to meet the needs of Bonneville's customers and stakeholders and acquires power as needed.

In FY 2010, Bonneville completed a long-term Resource Program to guide potential future resource acquisitions needed to meet Bonneville's supply obligations. In the event that Bonneville does acquire output from a resource on a long-term basis, Bonneville will modify its budget to reflect the acquisition.

Associated Projects Costs represents funding for operation and maintenance costs for the FCRPS hydroelectric projects, minor additions, improvements and replacements, and liabilities of the Corps and Reclamation hydroelectric projects in the Pacific Northwest, which serve many purposes. All agencies emphasize efficient power production from existing facilities and improvement of the performance and availability of power generating units. Bonneville pays additional financing costs of the FCRPS facilities through its Interest Expense and Capital Transfer budget programs. Bonneville provides funding for the operations and maintenance costs that are part of the USFWS's Lower Snake River Compensation Plan (LSRCP) hatcheries. Bonneville is responsible for annual payments to the Confederated Tribes of the Colville Reservation for their claims concerning their contribution to the production of hydropower by the Grand Coulee Dam in accordance with the Settlement Agreement between the United States and the Colville Tribes (April 1994).

Bonneville's Fish and Wildlife Program provides for extensive protection, mitigation, and enhancement of Columbia River Basin fish and wildlife adversely affected by the development and operation of the FCRPS. Bonneville satisfies its fish and wildlife responsibilities by funding projects and activities designed to be consistent with the Program under the Northwest Power Act. Through the Program, Bonneville also implements measures to aid in the protection of fish and wildlife in the Columbia River and its tributaries, both listed as threatened or endangered as well as unlisted, under the ESA (see ESA discussion in the Power Services – Capital Overview section).

Bonneville's mitigation expenditures will focus on activities that benefit Columbia River Basin fish and wildlife resources, following priorities established through ESA consultations, agreements with resource managers, and the Program, including actions that:

- increase survival of ESA-listed and non-listed fish at FCRPS dams and reservoirs;
- increase survival of ESA-listed and non-listed fish throughout their life cycle by protecting and enhancing important habitat areas;
- protect and enhance important wildlife habitat;
- use of hatcheries to contribute to conservation and recovery of ESA-listed and non-listed fish;
- provide offsite mitigation projects and habitat, passage, and other improvements that address factors limiting improvements of target species; and
- support a focused and well-coordinated research, monitoring, and evaluation program.

In order to address the *in lieu* provision of the Northwest Power Act, which prohibits Bonneville from funding mitigation that other entities are authorized or required to undertake, Bonneville continues its work with the Council and the regional fish and wildlife managers, customers, and Tribes to review projects to ensure ratepayers fund appropriate mitigation. For example, Bonneville established a cost sharing Memorandum of Understanding (MOU) with the U.S. Forest Service in 2005, and renewed it with two regions in 2010, that requires a programmatic 30 percent cost share for fish mitigation projects

[3] Including expenses associated with the use of power financial instruments to hedge Bonneville's exposure to market price risk and certain index sales contract provisions as permitted by Bonneville's internal power transacting risk management guidance.

funded by Bonneville on National Forests. Bonneville continues to operate in a cooperative manner with the U.S. Forest Service.

The Energy and Water Development Appropriations Act of 1996 added section 4(h)(10)(D) to the Northwest Power Act, directing the Council to appoint an ISRP "to review a sufficient number of projects" proposed to be funded through Bonneville's annual fish and wildlife budget "to adequately ensure that the list of prioritized projects recommended is consistent with the Program." The Northwest Power Act further states that "in making its recommendations to Bonneville, the Council shall consider the impact of ocean conditions on fish and wildlife populations and shall determine whether the projects employ cost effective measures to achieve program objectives." Today, most mitigation projects funded by Bonneville receive ISRP review as part of the Council recommendation process. The Council has shifted to a multi-year project review cycle during which the ISRP reviews categories of projects grouped together.

The Council's major activities include the periodic preparation of a Northwest Conservation and Electric Power Plan (a 20-year electric energy demand and resources forecast and conservation program – known as the Power Plan) and the Fish and Wildlife Program. The Northwest Power Act directs that expenses of the Council, subject to certain limits based on forecasted Bonneville power sales, shall be included in Bonneville's annual budget to Congress. The cost of funding the Council is recovered through Bonneville's power rates.

Bonneville's Energy Efficiency program promotes the efficient use of energy in the Pacific Northwest and acquires conservation resources consistent with the Council's Power Plan. Such actions will: 1) meet energy efficiency targets; 2) achieve a least cost resource mix; 3) lessen the cost impacts of power purchases; 4) avoid the costs of ramping programs and infrastructure up and down; 5) extend the value of the FCRPS to customers; and 6) build the region's resource portfolio with energy efficiency. Bonneville is also exploring how best to integrate demand-side management, distributed generation, and other leading edge technologies into its generation and transmission planning processes.

Bonneville's Energy Efficiency program offers several ways for customer utilities to participate in energy efficiency. Program components include: (1) standard offer efficiency measures and custom projects, which result in customer proposals to conserve energy through such programs as residential weatherization; commercial lighting; heating, ventilation, and air conditioning (HVAC); industrial processes and lighting; and irrigated agriculture; (2) third-party delivery programs, such as Simple Steps Smart Savings, Energy Smart Industrial, and the Green Motors programs; and (3) programs to help regional federal installations reduce energy use, including federal hatcheries and irrigation districts, and to support the Corps of Engineers and Bureau of Reclamation in their efforts to reduce energy use; (4) efficiency achieved independently through the market or through codes and standards, i.e. Momentum Savings; and (5) market transformation through the Northwest Energy Efficiency Alliance (NEEA).

Bonneville's Energy Efficiency budgets reflect BPA's commitment to acquire Public Power's share of the Northwest Power and Conservation Planning Council's 7th Power Plan which forecasts regional electricity demand and resource strategies for the next 20 years. The 7th Plan preferred resource strategy calls for the region to acquire 1,400 aMW of energy efficiency by 2021. Bonneville is pursuing a plan to achieve a portion of that goal (573.1 aMW).

In meeting its energy efficiency goals, Bonneville may employ resource acquisition agreements, as authorized by Northwest Power Act section 6, and customer self-funded conservation as well as research, evaluation, contract support, NEEA support, and emerging technology development.

The Residential Exchange Program (REP) was created by the Northwest Power Act to extend the benefits of low-cost federal power to the residential and farm customers of Pacific Northwest electric utilities that have high average system costs. Currently, the region's six investor-owned utilities (IOUs) and two of the region's consumer-owned utilities are actively participating in the REP. Payments under the REP are made to individual IOUs based on the difference between Bonneville's utility-specific Priority Firm (PF) Exchange rates and each utility's average system cost (ASC), times a utility's residential and farm loads. ASCs are determined in accordance with the 2008 Average System Cost Methodology (ASCM). Participating utility ASCs are established in a public process that occurs prior to and during Bonneville's power rate case. Bonneville's utility-specific PF Exchange rates are determined each rate period. As described below, Bonneville and regional parties

reached a settlement of the REP in 2011 in which the total amount of REP benefits available to the IOUs was established through 2028. Payments to the IOUs are made monthly based on historical invoiced exchange loads.

Over the past decade, regional parties have filed multiple lawsuits challenging Bonneville's implementation of the REP. These lawsuits were consolidated into four cases that were stayed before the U.S. Court of Appeals for the Ninth Circuit. On July 26, 2011, Bonneville adopted a regionally supported settlement, referred to as the 2012 REP Settlement. Under the settlement, the region's six IOUs will receive about $4.1 billion in REP payments over the 17-year term of the settlement, beginning at $182.1 million in FY 2012, and increasing to $286.1 million in FY 2028. In addition to this settlement, Bonneville has reached related REP settlements with two consumer-owned utilities. A single challenge to the 2012 REP Settlement was dismissed by the U.S. Court of Appeals for the Ninth Circuit in October of 2013.

Explanation of Changes

Bonneville's budget includes $2,530 million in FY 2018 for Power Services operating expenses, which is a 2.0 percent increase over the FY 2017 forecasted level. The increase reflects continuing emphasis on operation and maintenance of hydro generation projects on the FCRPS.

The FY 2018 budget increases the level for Production (+$13.3 million), Associated Projects (+$17.4 million), Fish & Wildlife (+$3.0 million), Residential Exchange (+20.4 million), and the Northwest Power & Conservation Council (+$34 thousand), and decreases the level for Energy Efficiency & Renewable Resources (-$3.8 million). In addition, the FY 2018 Budget Request proposes that the Federal government be authorized to sell the transmission assets of Bonneville.

Production
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
1,435,724	1,261,275	1,274,602

Overview

Power Purchases: Includes power purchased to cover power supply obligations as well as balancing loads with generation from the hydro system. These purchases can be made in the form of long-term purchases to meet supply obligations based on long-term planning requirements or they can be made within the year due to the monthly shape of the loads and the monthly shape of the hydroelectric generation. Also, purchases can be made within the month and within the day to fill shortages due to fluctuations in the hydro system and load.

Power Scheduling/Marketing: Schedule and market (buy/sell) electric energy with Bonneville customers and the Pacific Northwest's interconnected utilities. Scheduling includes Power Services' implementation of physical and memo power schedules and associated transmission schedules, implementation of Electronic Tagging (ETag) in accordance with NERC and in accordance with FERC, and implementation of electronic scheduling.

Columbia Generating Station (CGS): Bonneville has acquired full lifetime project capability of CGS. CGS is on a 24-month fuel and outage cycle. A maintenance and refueling outage occurred in the spring of 2015 and will again in FY 2017.

Continued investments in Production include:
Continuous Activity (all years)

- Provide oversight of all power supply contracts and related projects from which Bonneville purchases generation capability to ensure that all Bonneville approval rights are protected; coordinate, communicate, and administer agreements, issues, and programs between Bonneville and the project owners.
- Provide wind resource integration services for wind generation.
- Power Purchases.
- Power Scheduling/Marketing.
- Provide oversight of all contracts signed to date. Pursue cost-effective means to mitigate capacity demands associated with interconnecting large amounts of wind into the Bonneville system.
- Pursue acquisition of additional cost-effective generation to meet load growth.
- Provide oversight on the wind resource integration services currently purchased by public power customers and offer additional renewable resource shaping services to such customers using wind generation to serve their load.

Associated Projects
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
416,863	463,786	481,232

Overview

Support FCRPS project costs and work to strengthen interagency and regional relationships to improve project performance, supporting functions, and to better understand project resource requirements and costs. This helps to maintain FCRPS reliability and system performance, as well as to attain Bonneville's strategic business objectives.

Continued investments in Associated Projects include:

Continuous Activity (all years)

Bureau of Reclamation:

- Continue direct funding Reclamation O&M power activities.

Corps of Engineers:

- Continue direct funding Corps O&M power activities.

Fish & Wildlife
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
258,142	274,000	277,000

Overview

Bonneville implements a mature fish and wildlife mitigation program based on recommendations made by the region's fish and wildlife management agencies and tribes to the Council. Several recent Council reviews have made additional fish and wildlife project recommendations to Bonneville. Bonneville, in coordination with the Council, reviews new and on-going projects for consistency with the Program and purposes of the Northwest Power Act. Bonneville reviews and resets project-specific funding commitments annually, including projects under the FCRPS BiOps and other agreements. Bonneville informs its funding decisions with the management objectives and priorities in the Program (including ISRP reviews) and the Accords as it integrates their implementation with actions necessary to fulfill ESA responsibilities. Regular coordination on implementation priorities continues among Bonneville, the Council, federal resource management agencies, states, Tribes, and others.

Continued investments in Fish &Wildlife include:
Continuous Activity (all years)

- Anadromous Fish: Continue implementing both ongoing and new projects that support ESA-listed species and other measures called for under the 2008 FCRPS BiOp and Supplemental FCRPS BiOps issued in 2010 and 2014, the Fish Accords, the Washington Estuary Agreement, the Kalispel Agreement, and the Willamette and Southern Idaho agreements. Prioritize projects that address the factors that contribute most to mitigation success and that fulfill Bonneville's responsibility for mitigating the impacts from the FCRPS. Implement and develop activities that protect and enhance tributary and estuary habitat, improve mainstream habitat, reduce potentially harmful hatchery practices on ESA-listed populations, and contribute to sustainable fisheries.
- Resident Fish: Implement activities to mitigate the impacts of the FCRPS on lamprey, sturgeon, and bull trout and promote the reproduction and recruitment of Kootenai River white sturgeon. These activities have been selected in response to the USFWS's 2000 bull trout and 2006 Libby BiOp, the Program, and the Fish Accords.
- Mitigation using resident fish to offset anadromous fish losses (substitution): mitigate for reservoir power operation impacts to resident fish and wildlife by seeking projects that benefit both simultaneously. Those resident fish habitat acquisition projects that meet Bonneville's Capitalization Policy will be funded under the capital portion of Bonneville's Fish and Wildlife budget and credited for both fish and wildlife where appropriate.
- Wildlife: Use existing Bonneville policies to continue the current effort to mitigate wildlife in a manner consistent with the Program and fulfill commitments in wildlife agreements such as the Kalispel Agreement, Willamette Wildlife Agreement, and Southern Idaho Wildlife Agreement. Those wildlife projects that meet Bonneville's Capitalization Policy will be funded under the capital portion of Bonneville's Fish and Wildlife budget and credited against both wildlife and fish obligations according to Bonneville's crediting policy and applicable mitigation contracts.

Residential Exchange, Northwest Power and Conservation Council, and Energy Efficiency & Renewable Resources ($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
389,205	480,403	497,122

Overview

Residential Exchange Program (REP)

- Includes forecasted REP benefits based on the 2012 REP Settlement.

Northwest Power and Conservation Council

- Continue support of the Council activities, as directed under the Northwest Power Act, including regional power plan development and maintenance and fish and wildlife program activities.

Energy Efficiency Resources

- Conservation Purchases: Provide programmatic savings reimbursements and energy efficiency incentives to Bonneville customers to purchase conservation savings. This includes performance payments and Energy Smart Reserved Power payments for federal installations and fish hatcheries and irrigation districts.

- Conservation Infrastructure: All support for programs and operations, including third-party program implementation, contract support, market research (Momentum Savings research), evaluation, and emerging technology research.

- Market Transformation: Support for NEEA's market transformation initiatives. NEEA identifies barriers and opportunities to increase the market adoption of efficiency by leveraging its regional partnerships.

Activities, Milestones, and Explanation of Changes

FY 2017 Estimate	FY 2018 Estimate	Explanation of Changes FY 2018 vs FY 2017 Estimate
Power Services - Operating Expense **$2,479,464,000**	**$2,529,956,000**	**+$50,492,000/2.0%**
Production $1,261,275,000 Milestones: • Continue to provide oversight of all signed contracts. • Continue to provide wind resource integration services for customer wind generation.	**$1,274,602,000** Milestones: • Continue to provide oversight of all signed contracts. • Continue to provide wind resource integration services for customer wind generation.	**+$13,327,000/+1.1%** • The increase reflects higher power purchase costs.
Associated Project Costs $463,786,000 Milestones: • Continue direct funding of Corps and Reclamation O&M power activities.	**$481,232,000** Milestones: • Continue direct funding of Corps and Reclamation O&M power activities.	**+$17,446,000/+3.8%** • The increase reflects changes to security, biological opinion requirements, non-routine extraordinary maintenance, WECC/NERC compliance activities, and improvements, replacements, and minor additions at the projects.
Fish & Wildlife Costs $274,000,000 Milestones: • Continue implementing both ongoing and new projects that support ESA-listed species and other measures called for under the 2008, 2010, and 2014 FCRPS BiOps, the Fish Accords, the Washington Estuary Agreement, the Kalispel Agreement, the Southern Idaho Agreement, and the Willamette Agreement.	**$277,000,000** Milestones: • Continue implementing both ongoing and new projects that support ESA-listed species and other measures called for under the 2008, 2010, and 2014 FCRPS BiOps, the Fish Accords, the Washington Estuary Agreement, the Kalispel Agreement, the Willamette Agreement, and the Southern Idaho Agreement.	**+$3,000,000/+1.1%** • The increase reflects funding associated with the Biological Opinions, Fish Accord commitments, and Northwest Power Act activities.

FY 2017 Estimate	FY 2018 Estimate	Explanation of Changes FY 2018 vs FY 2017 Estimate
Residential Exchange Program $295,540,000 Milestones: • Continue to provide REP benefits.	**$315,984,000** Milestones: • Continue to provide REP benefits.	**+$20,444,000/6.9%** • The increase reflects the scheduled rise in the amount of REP payments payable to the IOUs prescribed by the Residential Exchange Settlement.
NW Power & Conservation Council $11,590,000 Milestones: • Continue support of the Council activities, as directed under the Northwest Power Act, including regional power plan development and maintenance, and fish and wildlife program activities.	**$11,624,000** Milestones: • Continue support of the Council activities, as directed under the Northwest Power Act, including regional power plan development and maintenance, and fish and wildlife program activities.	**+$34,000/0.3%** • The increase reflects continuing emphasis on the NW Power and Conservation Council.
Energy Efficiency & Renewable Resources $173,273,000 Milestones: • Continue close-out of the legacy conservation resource acquisition contracts, which support Bonneville's contractual obligation to serve customer loads. • Continue to support utility incentive programs. • Continue to support regional energy efficiency programs. • Continue supporting energy efficiency at direct serve federal agencies.	**$169,514,000** Milestones: • Continue close-out of the legacy conservation resource acquisition contracts, which support Bonneville's contractual obligation to serve customer loads. • Continue to support utility incentive programs. • Continue to support regional energy efficiency programs. • Continue supporting energy efficiency at direct serve federal agencies.	**-$3,759,000/-2.2%** • Even though there is a small decrease, there is a continuing emphasis on the energy efficiency program consistent with the Power Plan.

Transmission Services – Operating Expense
Funding Schedule by Activity
Funding ($K)

	FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate	FY 2018 vs FY 2017 $	FY 2018 vs FY 2017 %
Transmission Services - Operating Expense					
Engineering	95,331	110,811	116,567	5,756	5%
Operations	172,186	188,473	201,475	13,002	7%
Maintenance	186,698	199,795	203,920	4,125	2%
Total, Transmission Services - Operating Expense	**454,215**	**499,079**	**521,962**	**22,883**	**5%**

Outyears ($K)

	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
Transmission Services - Operating Expense					
Engineering	116,567	118,180	129,956	134,736	141,816
Operations	201,475	198,871	197,311	197,338	199,935
Maintenance	203,920	206,250	210,435	215,093	219,757
Total, Transmission Services - Operating Expense	**521,962**	**523,301**	**537,702**	**547,167**	**561,508**

Transmission Services – Operating Expense

Overview

This activity provides for the transmission system services of engineering, operations, and maintenance for Bonneville's electric transmission system, and the associated power system control and communication facilities. Primary strategies of this program are: 1) maintain the safety and reliability of the transmission system; 2) increase the focus on meeting customers' needs; 3) optimize the transmission system; 4) provide open and non-discriminatory transmission access; and 5) improve Bonneville's cost effectiveness.

Explanation of Changes

Bonneville's budget includes $522.0 million in FY 2018 for TS operating expense which is a 4.6 percent increase over the FY 2017 forecasted level. The increase reflects continuing operation and maintenance of Bonneville's transmission assets.

The FY 2018 budget increases the levels for Engineering (+$5.8 million), Operations (+$13.0 million), and Maintenance (+$4.1 million). In addition, the FY 2018 Budget Request proposes that the Federal government be authorized to sell the transmission assets of Bonneville.

Engineering
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
95,331	110,811	116,567

Overview
Continue efforts to identify best methods for improving system reliability and maintenance practices, and continue cost reduction efforts by identifying opportunities for low-cost reinforcement and voltage support of the existing transmission system.

Continued investments in Engineering include:
Continuous Activity (all years)

- Research and Development (R&D): Conduct research focused on technologies related to business challenges Bonneville faces including reliability, energy efficiency, and integration of renewable energy resources. Technologies of interest are identified in Bonneville's Technology Roadmaps. A portfolio of research is selected every year through Bonneville's Portfolio Decision Framework.
- System Development Planning and Analysis: Continue providing technical support and asset planning to deploy the Asset Management approach to sustain existing assets and expand the system to meet Agency objectives.
- Technical Support: Provide technical support activities, such as transmission system planning and studies to optimize portions of the system. Provide support for non-wires solutions studies and pilot projects.
- Capital-to-Expense Adjustments: Conduct annual analysis of Bonneville's outstanding capital work orders to assess whether they should be expensed. As obsolete inventory is identified and disposed of, it is expensed.
- Regulatory Fees: WECC dues and loop flow payments, Department of Commerce/National Telecommunications and Information Administration licensing costs for radio frequencies, DOE Radio Spectrum staff and contractor support, and NERC Critical Infrastructure Protection (CIP) compliance program costs. Includes membership in ColumbiaGrid, a transmission planning organization in the region.
- Reimbursable Transactions: Enter into written agreements with federal and non-federal entities that have work or services to be performed by Bonneville staff at the expense of the benefiting entities. The projects must be beneficial, under agreed upon criteria, to Bonneville operations and to the federal or non-federal entity involved or otherwise be aligned with or supportive of Bonneville's strategic objectives. Additionally, these activities generally contribute to more efficient or reliable construction of the federal transmission system or otherwise enhance electric service to the region.
- Leased and Other Costs: Includes leases, lease purchases, and other costs of financing transmission, delivery, and voltage support facilities when such arrangements are operationally feasible and cost effective to deliver power. Leases and lease purchases enable Bonneville to continue to invest in infrastructure to support a safe and reliable system for the transmission of power. Other costs included are the accrued interest costs associated with Large Generator Interconnection Agreements (LGIA).

Operations
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
172,186	188,473	201,475

Overview

Substation Operations: Perform operations functions necessary to provide electric service to customers and to protect the federal investment in electric equipment and other facilities. Includes equipment adjustments, switching lines and equipment during emergencies or maintenance, isolating damaged equipment, restoring service to customers, inspecting equipment, and reading meters.

Power System Dispatching and Supporting Functions: Perform central dispatching, control, and monitoring of the electric operation of the federal transmission system. Also includes load, frequency, and voltage control of federal generating plants, and coordinating long- and short-term outages of system equipment. In addition, provides technical engineering support of dispatching function and provides all technical and systems support for Dittmer Control Center (DCC) and Munro Control Center (MCC).

Marketing and Sales: Provide management and direction of transmission rates, and provide business strategy in marketing of transmission and ancillary products and services of Transmission Services. Involve customers and constituents in the process of product and rate development. Maintain accurate and complete historical records of current and past legacy transmission agreements. Provide guidance for current and future transmission contract negotiations. Provide financial analysis of market strategies. Monitor and report on the financial health of Transmission Services. Support cost management by effective reporting and analysis of current expenditures. Ensure official budget submittals reflect current management financial strategies and adequately fund transmission programs.

Transmission Scheduling: Provide non-discriminatory, open access to the Bonneville transmission system consistent with Bonneville's Open Access Transmission Tariff (OATT). Schedule transmission capacity to eligible Bonneville customers, which include customers acquiring services under Use of Facilities (UFT), Formula Power Transmission (FPT), Integration of Resources (IR), and Part II or Part III of the OATT. Manage the reservations and scheduling of all transmission services associated with the OATT. Update practices, policies, and commercial systems to accommodate a large diversity of resources, including wind.

Continuous Activity (all years):

- Continue to operate within parameters of NERC and WECC.
- Continue support of increased compliance activities related to the reliability of the transmission system, including cyber security.
- Continue developing facilities, policies, procedures, and implementing systems to support integrating the diversity of resources into the transmission grid.
- Continue preparation for increased complexity of transmission scheduling, power system operations, and dispatching, including congestion management and outage scheduling.
- Continue developing the Dittmer Scheduling Center and Munro Scheduling Center facilities to support continuous real time scheduling operations from both facilities.
- Continue developing a long-term approach to optimize transmission availability through streamlined, cost-effective, and sustainable processes.
- Continue to address succession planning issues across key functions.
- Continue development and implementation of business systems and tools.

Maintenance
($K)

FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate
186,698	199,795	203,920

Overview
In all aspects of maintenance, Bonneville is continuing the use of Reliability Centered Maintenance (RCM) practices. The use of RCM practices is focused on improving system reliability, increasing availability, and meeting new and existing compliance regulations at lowest lifecycle costs. In addition Bonneville is deploying Asset Management to optimize maintain/replace decision making. Maintenance costs are expected to increase as Bonneville addresses the aging transmission system, meeting reliability standards, including vegetation management, and environmental constraints associated with construction, enhancement, and maintenance of the system. The Bonneville transmission system encompasses 15,212 circuit miles on over 11,860 right-of-way miles (many of these miles are through rugged, inaccessible terrain).

Continued investments in Maintenance include:
Continuous Activity (all years)

- Continue to improve performance to meet System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI) targets.
- Continue refining processes and procedures for monitoring and tracking compliance activities related to the reliability of the transmission system.
- Continue to improve system availability performance through new maintenance procedures and work practices.
- Continue to develop and implement work practices and procedures for implementation of a new specialty crew using bare-hand live line practices for maintenance of high-voltage transmission lines.
- Continue increased emphasis on replacement of line hardware (life extension programs for insulators, connectors, dampers, and fiber optic cable hardware).
- Continue to prepare for the impact of an expected high attrition rate among Bonneville's aging workforce by recruiting apprentices and replacements for critical minimum crew size workload positions.
- Increase outage-scheduling planning and coordination to increase customer satisfaction and system availability.
- Maintain vegetation management levels to ensure system reliability.
- Continue access road work to provide reliable access to facilities and ensure environmental compliance.
- Continue improving environmental stewardship.

Transmission Line Maintenance: Maintain and repair 15,212 circuit miles of high voltage transmission lines, of which over 7,617 km (4,734 circuit miles) are 500 kV transmission extra-high voltage (EHV). Maintenance of EHV lines is two and one-half times more labor-intensive than maintenance of lower transmission voltages, although more efficient in transmission of power. This responsibility includes maintaining transmission rights-of-way to ensure system reliability, safety, and environmental compliance. Adopt work practices that improve system availability, reliability, and compliance.

Right-of-Way Maintenance: Maintain over 11,860 of Bonneville's right-of-way miles. This responsibility includes vegetation management, danger tree management, and access road maintenance to ensure system reliability, safety, and environmental compliance. Adopt procedures and processes that improve system availability, reliability, environmental compliance, and reliability compliance. Continue to deploy new technologies such as LiDAR (Light Detection and Ranging) to reliably and cost-effectively manage vegetation.

Substation Maintenance: Maintain and repair the transmission system power equipment located in Bonneville's 261 substations. Work includes inspections, diagnostic testing, and predictive and condition-based maintenance.

System Protection Maintenance: Maintain relaying metering and remedial action scheme equipment used to control and protect the electrical transmission system and to meter energy transfers for the purpose of revenue billing. Additionally,

field-engineering services provide technical advice and assure the correct operation of power system relaying and special control systems used to support interregional energy transmission capabilities.

Power System Control Maintenance: Test, repair, and provide field engineering support of Bonneville's highly complex equipment, communications, and control systems, including seven major microwave systems, fiber optic systems, and other critical communications and control equipment that support the power system.

Non-Electric Plant Maintenance: Maintain and manage Bonneville's non-electric facilities. Includes site, building, and building utility maintenance; custodial services; station utility; and other maintenance service activities, as well as facilities asset management on Bonneville-owned or Bonneville-leased non-electric facilities.

Maintenance Standards and Engineering: Establish, monitor, and update system maintenance standards, policies, and procedures, and review and update long-range plans for maintenance of the electric power transmission system.

Activities, Milestones, and Explanation of Changes

FY 2017 Estimate	FY 2018 Estimate	Explanation of Changes FY 2018 vs FY 2017 Estimate
Transmission Services - Operating Expense **$499,079,000**	**$521,962,000**	**+$22,883,000/4.6%**
Engineering $110,811,000 Milestones: • Continue efforts to identify best methods for improving system reliability and maintenance practices. • Continue cost reduction efforts by identifying opportunities for low-cost reinforcement and voltage support of the existing transmission system.	**$116,567,000** Milestones: • Continue efforts to identify best methods for improving system reliability and maintenance practices. • Continue cost reduction efforts by identifying opportunities for low-cost reinforcement and voltage support of the existing transmission system.	**+$5,756,000/+5.2%** • The increase reflects emphasis on system reliability standards compliance and research and development.
Operations $188,473,000 Milestones: • Continue to operate within parameters of NERC and WECC. • Continue support of increased compliance activities related to the reliability of the transmission system including cyber security.	**$201,475,000** Milestones: • Continue to operate within parameters of NERC and WECC. • Continue support of increased compliance activities related to the reliability of the transmission system including cyber security.	**+$13,002,000/+6.9%** • The increase reflects continued emphasis on reliability compliance activities, resource integration activities, key strategic initiatives, security, and control center systems support.
Maintenance $199,795,000 Milestones: • Continue to improve performance to meet System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI) targets.	**$203,920,000** Milestones: • Continue to improve performance to meet System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI) targets.	**+$4,125,000/+2.1%** • The increase reflects implementation of facilities asset management plans, continued implementation of live-line crew, NERC/WECC compliance activities related to land rights and vegetation management, continuing maintenance program activities, including system protection, right-of-way, line maintenance, and performance improvements.

Interest, Pension, and Post-retirement Benefits
Operating Expense
Funding Schedule by Activity
Funding ($K)

	FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate	FY 2018 vs FY 2017 $	FY 2018 vs FY 2017 %
Interest, Pension, and Post-retirement Benefits					
BPA Bond Interest (Net)	139,300	130,260	161,399	31,139	23.9%
BPA Appropriation Interest	14,059	8,954	4,615	-4,339	-48.5%
Corps of Engineers Appropriation Interest	134,663	85,131	89,735	4,604	5.4%
Lower Snake River Comp Plan Interest	16,534	15,857	3,872	-11,985	-75.6%
Bureau of Reclamation Appropriation Interest	37,547	13,230	12,426	-804	-6.1%
Bond Premiums Paid/Discounts (not capitalized)	0	0	0	0	0%
Subtotal, Interest – Operating Expense	**342,103**	**253,432**	**272,047**	**18,615**	**7.3%**
Additional Pension, and Post-retirement Benefits	34,183	35,671	36,936	1,265	3.5%
Total, Interest, Pension, and Post-retirement Benefits	**376,286**	**289,103**	**308,983**	**19,880**	**6.9%**

Outyears ($K)

	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
Interest, Pension, and Post-retirement Benefits					
BPA Bond Interest (Net)	161,399	196,836	231,284	273,632	305,225
BPA Appropriation Interest	4,615	0	0	0	0
Corps of Engineers Appropriation Interest	89,735	88,502	90,693	90,120	87,097
Lower Snake River Comp Plan Interest	3,872	1,301	436	187	168
Bureau of Reclamation Appropriation Interest	12,426	10,884	7,677	6,695	6,037
Bond Premiums Paid/Discounts (not capitalized)	0	0	0	0	0
Subtotal, Interest – Operating Expense	**272,047**	**297,523**	**330,090**	**370,634**	**398,527**
Additional Pension, and Post-retirement Benefits	36,936	38,309	39,754	41,398	43,451
Total, Interest, Pension, and Post-retirement Benefits	**308,983**	**335,832**	**369,844**	**412,032**	**441,978**

Interest, Pension and Post-retirement Benefits
Operating Expense

Overview
Interest expense provides for interest due on bonds issued to the U.S. Treasury and appropriations repayment responsibilities. The appropriation repayments relate to capital investment in FCRPS hydroelectric generating and transmission facilities of Bonneville, and the Corps and Reclamation. Investments were financed by Congressional appropriations and Bonneville borrowings from the U.S. Treasury. Bonneville repays these amounts through revenue raised in its power sales and transmission services revenues.

Since receiving U.S. Treasury borrowing authority in 1974 under the Transmission Act, all Bonneville U.S. Treasury borrowing has been at market rates. As of October 1, 1996, all of Bonneville's repayment obligations on FCRPS appropriated investment (Corps and Reclamation FCRPS investment and Bonneville investment financed with appropriations prior to the Transmission Act that were unpaid as of September 30, 1996) were restructured and assigned new current-market interest rates. The Bonneville Appropriations Refinancing Act of 1996 (Refinancing Act) called for re-setting (reducing) the unpaid principal of FCRPS appropriations and reassigning (increasing) interest rates. New principal amounts were established as of the beginning of FY 1997 at the present value of the principal and annual interest payments Bonneville would make to the U.S. Treasury for these obligations in the absence of the legislation, plus $100.0 million. The new principal amounts were assigned prevailing market interest rates as of October 1, 1996. Bonneville's outstanding appropriations repayment obligations at the end of FY 1996 were $6.6 billion with a weighted average interest rate of 3.4 percent. The refinancing reduced the principal amount to $4.1 billion with a weighted average interest rate of 7.1 percent. Implementation of the refinancing took place in 1997 after audited actual financial data were available. Pursuant to the legislation, Bonneville submitted its calculations and interest rate assignments implementing the Refinancing Act to the U.S. Treasury for its review and approval. The U.S. Treasury approved the implementation calculations in July 1997. The Refinancing Act also calls for all future FCRPS appropriations to be assigned prevailing U.S. Treasury yield curve interest rates. Bonneville's outstanding appropriations may be prepaid prior to their stated maturities.

Interest estimates are a function of costs of U.S. Treasury borrowing to Bonneville, repayment status of outstanding FCRPS investments, and projected additions to FCRPS plant in service. These estimates may change over time depending on forecasted market conditions. The interest cost estimates include the impact of Bonneville's appropriation refinancing legislation.

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 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, Bonneville does not record any accumulated plan assets or liabilities related to the administration of such programs. Bonneville makes additional annual contributions to the General Fund of the U.S. Treasury (receipt account 892889) related to the Federal post-retirement benefit programs provided to employees associated with the operation of the FCRPS. These payments were begun with the FY 1998 Administration's budget which assumed Bonneville would prospectively cover the unfunded liability that accrues in fiscal years after FY 1997 of the Civil Service Retirement and Disability Fund (Disability Fund), the Employees Health Benefits Fund (Health Fund), and the Employees Life Insurance Fund (Insurance Fund) that it had not covered prior to FY 1998. Bonneville's additional annual contributions include amounts relating to pension and post-retirement benefits for Bonneville and the power-related portion of the Corps and Reclamation projects.

Capital Transfers
Funding Schedule by
Activity Funding
($K)

	FY 2016 Actual	FY 2017 Estimate	FY 2018 Estimate	FY 2018 vs FY 2017 $	FY 2018 vs FY 2017 %
Capital Transfers					
BPA Bond Amortization[1]	319,000	76,100	14,076	-62,024	-81.5%
Reclamation Appropriation Amortization	352,000	0	21,561	21,561	N/A
BPA Appropriation Amortization	75,000	129,768	191,508	61,740	47.6%
Corps Appropriation Amortization	691,000	74,279	70,019	-4,260	-5.7%
Lower Snake River Comp Plan Amortization	0	0	35,970	35,970	N/A
Total, Capital Transfers	**1,437,000**	**280,147**	**333,134**	**52,987**	**18.9%**

Outyears ($K)

	FY 2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
Capital Transfers					
BPA Bond Amortization[1]	14,076	358,734	292,583	326,055	297,620
Reclamation Appropriation Amortization	21,561	44,858	13,733	11,201	69,778
BPA Appropriation Amortization	191,508	71,504	58,907	67,223	99,776
Corps Appropriation Amortization	70,019	14,561	41,472	56,196	29,108
Lower Snake River Comp Plan Amortization	35,970	12,085	3,702	325	890
Total, Capital Transfers	**333,134**	**501,742**	**410,397**	**461,000**	**497,172**

Overview

This activity conveys funds to the U.S. Treasury for repayment of certain FCRPS costs not included in the Associated Project Costs budget. Since capital transfers are cash transactions, they are not considered budget obligations.

[1] Bonneville "Bond(s)" in this FY 2018 Budget refers to all bonds issued by Bonneville to and advances received from the U.S. Treasury. This reference is consistent with section 13(a) of the Transmission Act (P.L. 93-454), which defines Bonneville bonds as all bonds, notes, and other evidences of indebtedness issued and sold by Bonneville to the U.S. Treasury.

Bonneville Power Administration
Performance Measures

In accordance with the GPRA Modernization Act of 2010, the Department sets targets for, and tracks progress toward, achieving performance goals for each program.

	FY 2016	FY 2017	FY 2018
Performance Goal (Measure)	**BPA Hydropower Generation Efficiency Performance** - Achieve 97.5% Heavy-Load-Hour Availability (HLHA) through efficient performance of Federal hydro-system processes and assets, including joint efforts of BPA, Army Corps of Engineers, and Bureau of Reclamation. HLHA is actual machine capacity available during heavy-load hours (0700-2200 Monday-Saturday), divided by planned available capacity during heavy-load hours.		
Target	≥ 97.5%	≥ 97.5%	≥ 97.5%
Result	Target Met: 102.1%	Not yet available	Not yet available
Endpoint Target	Maintain at least 97.5% Heavy-Load-Hour Availability.		

	FY 2016	FY 2017	FY 2018
Performance Goal (Measure)	**BPA Repayment of Federal Power Investment Performance -** Meet planned annual repayment of principal on Federal power investments.		
Target	≥ 100%	≥ 100%	≥ 100%
Result	Target Met: 100%	Not yet available	Not yet available
Endpoint Target	Continue to meet planned annual repayment of principal.		

	FY 2016	FY 2017	FY2018
Performance Goal (Measure)	**BPA System Reliability Performance - NERC Rating** - Attain average North American Electric Reliability Council (NERC) compliance ratings for NERC Control Performance Standard 1 (CPS1) which measures generation/load balance on one-minute intervals (rating > or = 100%).		
Target	CPS1 ≥ 100%	CPS1 ≥ 100%	CPS1 ≥ 100%
Result	Target Met:143.80%	Not yet available	Not yet available
Endpoint Target	Maintain CPS1 score of >= 100%.		

BONNEVILLE POWER ADMINISTRATION
TOTAL OBLIGATIONS/OUTLAYS
Current Services
(in millions of dollars)

BP-1 SUMMARY[1/3/]	FISCAL YEAR									
	2016		2017		2018		2019	2020	2021	2022
	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Oblig.	Oblig.	Oblig.
1 Residential Exchange Program	219	219	296	296	316	316	318	251	251	266
2 Power Services [2/]	1,853	1,853	1,725	1,725	1,756	1,756	1,830	1,727	1,804	1,798
3 Transmission Services	732	732	1,030	1,030	961	961	982	1,129	1,135	1,159
4 Conservation & Energy Efficiency	160	160	173	173	170	170	170	173	173	175
5 Fish & Wildlife	274	274	319	319	328	328	321	320	321	321
6 Interest/ Pension [4/]	376	376	289	289	309	309	336	370	412	442
7 Associated Project Cost - Capital	187	187	246	246	265	265	288	313	339	346
8 Capital Equipment	24	24	25	25	27	27	27	3	14	7
9 Planning Council	11	11	12	12	12	12	12	12	12	13
10 Misc. Accounting Adjs.	0	0	0	0	0	0	0	0	0	0
11 Projects Funded in Advance	272	272	42	42	40	40	39	36	35	35
12 Capitalized Bond Premiums	0	0	2	2	2	2	2	2	2	2
13 **TOTAL OBLIGATIONS/ OUTLAYS** [3/]	**4,107**	**4,107**	**4,158**	**4,158**	**4,185**	**4,185**	**4,325**	**4,336**	**4,496**	**4,563**

REVENUES AND REIMBURSEMENTS

Current Services

(in millions of dollars)

FISCAL YEAR

	BP-1 SUMMARY	2016		2017		2018		2019	2020	2021	2022
		Oblig.	Outlays	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Oblig.	Oblig.	Oblig.
14	Revenues [5/]	3,137	3,137	4,072	4,072	4,074	4,074	4,075	4,160	4,245	4,336
15	Project Funded in Advance	272	272	42	42	40	40	39	36	35	35
16	**TOTAL**	**3,409**	**3,409**	**4,114**	**4,114**	**4,114**	**4,114**	**4,114**	**4,196**	**4,280**	**4,371**
	BUDGET AUTHORITY (NET) [6/]	**701**		**569**		**451**		**317**	**537**	**515**	**485**
17	**OUTLAYS (NET) [6/7/8]**		**510**		**42**		**71**	**211**	**141**	**216**	**192**

These notes are an integral part of this table.

1/ This FY 2018 budget includes capital and expense estimates based on initial spending proposals from Bonneville's 2016 IPR and CIR process.

Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving competitive electric utility industry.

2/ Power Services includes Fish & Wildlife, Residential Exchange Program, Planning Council, Conservation & Energy Efficiency and Associated Project Costs which have been shown separately for display purposes.

3/ This budget has been prepared in accordance with PAYGO. Under PAYGO all Bonneville budget estimates are treated as mandatory and are not subject to the discretionary caps included in the Budget Control Act of 2011. These estimates support activities that are separate from discretionary activities and accounts. Thus, any changes to Bonneville estimates cannot be used to affect any other budget categories which have their own dollar caps. Because Bonneville's obligations are and will be incurred under pre-existing legislative authority, Bonneville is not subject to a "pay-as-you-go" test regarding its revision of current-law funding estimates.

4/ See Interest Expense, Pension and Post-retirement Benefits and Capital Transfers section of this budget for a complete discussion of these cost estimates.

5/ Revenues, included in the Net Outlay formulation, are calculated consistent with cash management goals and assume a combination of adjustments. Assumed adjustments include the use of a combination of tools, including upcoming rate adjustment mechanisms, a net revenue risk adjustment, debt service refinancing strategies and/or short-term financial tools to manage net revenues and cash. Some of these potential tools will reduce costs rather than generate revenue, causing the same Net Outlay result. Adjustments for depreciation and 4(h)(10)(C) credits of the Northwest Power Act are also assumed.

6/ BPA received $48.7 million of additional budget authority in FY 2007 to accommodate the work necessary to relocate the radio spectrum consistent with the Commercial Spectrum Enhancement Act (P.L. 108-494). In accordance with Federal law, Bonneville plans to return the forecasted unused balance of approximately $8.2 million to the U.S. Treasury as soon as the National Telecommunications Information Administration notifies the Federal Communications Commission that the DOE relocation effort is complete.

7/ Net Outlay estimates are based on current cost savings to date and anticipated cash management goals. They are expected to follow anticipated management decisions throughout the rate period that, along with actual market conditions, will impact revenues and expenses. Actual Net Outlays are volatile and are reported in Report on Budget Execution and Budgetary Resources (SF-133). Actual Net Outlays could differ from estimates due to changing market conditions, streamflow variability, and continuing restructuring of the electric industry.

8/ FY 2016 Net Outlays are based on Bonneville's FY 2016 audited actuals. FY 2017 Net Outlays are calculated using Bonneville's revenue forecast from the BP-16 rate case. FYs 2018 & 2019 assume no growth in Offsetting Collections compared to FYs 2016 & 2017. FYs 2020 through 2022 assume a growth in Offsetting Collections based on standard inflation factors.

EXPENSED OBLIGATIONS/OUTLAYS [1,4/]
Current Services
(in millions of dollars)
FISCAL YEAR

BP-2	2016		2017		2018		2019	2020	2021	2022
	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Oblig.	Oblig.	Oblig.
1 Residential Exchange Program	219	219	296	296	316	316	318	251	251	266
2 Power Services [2/]	1,853	1,853	1,725	1,725	1,756	1,756	1,830	1,727	1,804	1,798
3 Transmission Services	454	454	499	499	522	522	523	538	547	562
4 Conservation & Energy Efficiency	160	160	173	173	170	170	170	173	173	175
5 Fish & Wildlife	258	258	274	274	277	277	277	282	287	292
6 Interest/ Pension [3/]	376	376	289	289	309	309	336	370	412	442
7 Planning Council	11	11	12	12	12	12	12	12	12	13
8 TOTAL EXPENSE	3,330	3,330	3,268	3,268	3,361	3,361	3,467	3,352	3,485	3,547
9 Projects Funded in Advance	272	272	42	42	40	40	39	36	35	35

CAPITAL OBLIGATIONS/OUTLAYS [1/]

Current Services

(in millions of dollars)

FISCAL YEAR

BP-2 continued	2016		2017		2018		2019	2020	2021	2022
	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Oblig.	Oblig.	Oblig.
10 Transmission Services	277	277	531	531	439	439	458	591	588	598
11 Associated Project Cost	187	187	246	246	265	265	288	313	339	346
12 Fish & Wildlife	16	16	45	45	51	51	44	38	34	29
13 Capital Equipment	24	24	25	25	27	27	27	3	14	7
14 Capitalized Bond Premiums	0	0	2	2	2	2	2	2	2	2
15 **TOTAL CAPITAL INVESTMENTS**	**504**	**504**	**849**	**849**	**784**	**784**	**819**	**947**	**976**	**981**
16 **TREASURY BORROWING AUTHORITY TO**										
17 **FINANCE CAPITAL OBLIGATIONS [4/]**	**504**		**849**		**784**		**819**	**947**	**976**	**981**

These notes are an integral part of this table.

[1/] This FY 2018 budget includes capital and expense estimates based on initial spending proposals from Bonneville's 2016 IPR and CIR process.

Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving competitive electric utility industry.

[2/] Power Services includes Fish & Wildlife, Residential Exchange Program, Planning Council, Conservation & Energy Efficiency and Associated Project Costs which have been shown separately for display purposes.

[3/] See Interest Expense, Pension and Post-retirement Benefits and Capital Transfers section of this budget for a complete discussion of these cost estimates.

[4/] This budget has been prepared in accordance with PAYGO. Under PAYGO all Bonneville budget estimates are treated as mandatory and are not subject to the discretionary caps included in the Budget Control Act of 2011. These estimates support activities that are separate from discretionary activities and accounts. Thus, any changes to Bonneville estimates cannot be used to affect any other budget categories which have their own dollar caps. Because Bonneville's obligations are and will be incurred under pre-existing legislative authority, Bonneville is not subject to a "pay-as-you-go" test regarding its revision of current-law funding estimates.

BP-3

CURRENT SERVICES

(in millions of dollars)

	CAPITAL TRANSFERS			**FISCAL YEAR**				
	Amortization:	**2016 Pymts**	**2017 Pymts**	**2018 Pymts**	**2019 Pymts**	**2020 Pymts**	**2021 Pymts**	**2022 Pymts**
18	BPA Bonds	319	76	14	359	293	326	298
19	Reclamation Appropriations	352	0	22	45	14	11	70
20	BPA Appropriations	75	130	192	72	59	68	100
21	Corps Appropriations	691	74	70	15	41	56	29
22	Lower Snake River Comp Plan Amortization	0	0	36	12	4	0	1
23	**TOTAL CAPITAL TRANSFERS**	**1,437**	**280**	**333**	**502**	**410**	**462**	**497**
				STAFFING				
24	**FULL-TIME EQUIVALENT (FTE)**	**2,880**	**3,100**	**3,100**	**3,100**	**3,100**	**3,100**	**3,100**

PROGRAM & FINANCING SUMMARY

Current Services

(in millions of dollars)

Identification Code: 89-4045-0-3-271

		2016	2017	est. 2018	2019	2020	2021	2022
Program by activities:								
	Operating expenses:							
0.01	Power Services	1,436	1,261	1,275	1,350	1,233	1,295	1,275
0.02	Residential Exchange Program	219	296	316	318	251	251	266
	Associated Project Costs:							
0.05	Bureau of Reclamation	133	158	168	166	171	176	182
0.06	Corps of Engineers	238	251	257	257	265	273	281
0.07	Colville Settlement	17	22	23	23	23	24	24
0.19	U.S. Fish & Wildlife Service	29	33	33	34	35	35	36
0.20	Planning Council	11	12	12	12	12	12	13
0.21	Fish & Wildlife	258	274	277	277	282	287	292
0.23	Transmission Services	454	499	522	523	538	547	562
0.24	Conservation & Energy Efficiency	160	173	170	170	173	173	175
0.25	Interest	343	253	272	298	330	371	399
0.26	Pension and Health Benefits [1/]	34	36	37	38	40	41	43
0.91	**Total operating expenses [2/]**	**3,331**	**3,268**	**3,361**	**3,467**	**3,352**	**3,485**	**3,547**
	Capital investment:							
1.01	Power Services	187	246	265	288	313	339	346
1.02	Transmission Services	277	531	439	458	591	588	598
1.04	Fish & Wildlife	16	45	51	44	38	34	29
1.05	Capital Equipment	24	25	27	27	3	14	7
1.06	Capitalized Bond Premiums	0	2	2	2	2	2	2
1.07	**Total Capital Investment [3/]**	**504**	**849**	**784**	**819**	**947**	**976**	**981**
2.01	Projects Funded in Advanced	272	42	40	39	36	35	35
10.00	**Total obligations [4/]**	**4,107**	**4,158**	**4,185**	**4,325**	**4,336**	**4,496**	**4,563**

These notes are an integral part of this table.

[1/] See Interest Expense, Pension and Post-retirement Benefits and Capital Transfers section of this budget for a complete discussion of these cost estimates.

[2/] Assumes expense obligations, not accrued expenses.

Power Services includes Fish & Wildlife, Residential Exchange Program, Planning Council, Conservation & Energy Efficiency and Associated Project Costs which have been shown separately for display purposes.

[3/] Assumes capital obligations, not capital expenditures.

[4/] This FY 2018 budget includes capital and expense estimates based on initial spending proposals from Bonneville's 2016 IPR and CIR process.

For purposes of this table, this FY 2018 budget reflects, for FY 2016, actual third party financing expense only for PFIA.

Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving competitive electric utility industry.

Refer to 16 USC Chapters 12B, 12G, 12H, and Bonneville's other organic laws, including P.L. 100-371, Title III, Sec. 300, 102 Stat. 869, July 19, 1988, regarding Bonneville's ability to obligate funds.

Program and Financing (continued)

Current Services

(in millions of dollars)

		2016	2017	est. 2018	2019	2020	2021	2022
Financing:								
1000	Unobligated balance available, start of year. [5/]	13	13	11	0	0	0	0
1050	Unobligated balance available, end of year.[5/]	13	11	10	0	0	0	0
1900	**Budget authority (gross)**	**4,107**	**4,684**	**4,574**	**4,431**	**4,733**	**4,785**	**4,850**
Budget Authority:								
1400	Permanent Authority: Authority to borrow from Treasury (indefinite) [6/]	429	849	784	819	947	976	981
1600	Contract Authority	2,650						
1800	Spending authority from off-setting collections	3,409	4,114	4,114	4,114	4,196	4,280	4,371
1825	Portion applied to debt reduction	(319)	(280)	(333)	(502)	(410)	(462)	(497)
1850	**Spending authority from offsetting collections (adjusted)**	**1,028**	**3,834**	**3,790**	**3,612**	**3,786**	**3,818**	**3,874**
900	Total obligations	4,107	4,158	4,185	4,325	4,336	4,496	4,563
4110	Outlays (gross)	3,919	4,158	4,185	4,325	4,336	4,496	4,563
Adjustments to budget authority and outlays:								
	Deductions for offsetting collections:							
4120	Federal funds	(50)	(90)	(90)	(90)	(90)	(90)	(90)
4121	Interest on Federal Securities	(7)						
4123	Non-Federal sources	(3,352)	(4,024)	(4,024)	(4,024)	(4,105)	(4,190)	(4,281)
4130	Total, offsetting collections	(3,409)	(4,114)	(4,114)	(4,114)	(4,195)	(4,280)	(4,371)
4160	**Budget authority (net)**	**701**	**569**	**451**	**317**	**537**	**515**	**485**
4170	**Outlays (net) [7/8/]**	**510**	**42**	**71**	**211**	**141**	**216**	**192**

These notes are an integral part of this table.

[5/] Reflects estimated cost for radio spectrum fund.

[6/] The Permanent Authority: Authority to borrow (indefinite) from the U.S. Treasury amounts reflect both Bonneville's capital program financing needs and either the use of, or creation of, deferred borrowing. Deferred borrowing is created when, as a cash and debt management decision, Bonneville uses cash from revenues to liquidate capital obligations in lieu of borrowing from Treasury. This temporary use of cash on hand instead of borrowed funds creates the ability in future years to borrow money, when fiscally prudent. The FY 1989 Energy and Water Development Appropriations Act (P.L. 100-371 0f 7/19/88) confirmed that Bonneville has authority to incur obligations in excess of U.S. Treasury borrowing authority and cash in the BPA fund.

[7/] Net Outlay estimates are based on current cost savings to date and anticipated cash management goals. They are expected to follow anticipated management decisions throughout the rate period that, along with actual market conditions, will impact revenues and expenses. Actual Net Outlays are volatile and are reported in Report on Budget Execution and Budgetary Resources (SF-133). Actual Net Outlays could differ from estimates due to changing market conditions, streamflow variability, and continuing restructuring of the electric industry.

Revenues, included in the Net Outlay formulation, are calculated consistent with cash management goals and assume a combination of adjustments. Assumed adjustments include the use of a combination of tools, including upcoming rate adjustment mechanisms, a net revenue risk adjustment, debt service refinancing strategies and/or short-term financial tools to manage net revenues and cash. Some of these potential tools will reduce costs rather than generate revenue, causing the same Net Outlay result. Adjustments for depreciation and 4(h)(10)(C) credits of the Northwest Power Act are also assumed.

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[8/] FY 2016 Net Outlays are based on Bonneville's FY 2016 audited actuals. FY 2017 Net Outlays are calculated using Bonneville's revenue forecast from the BP-16 rate case. FYs 2018 & 2019 assume no growth in Offsetting Collections compared to FYs 2016 & 2017. FYs 2020 through 2022 assume a growth in Offsetting Collections based on standard inflation factors.

BONNEVILLE POWER ADMINISTRATION
BPA STATUS of U.S. TREASURY BORROWING
CURRENT SERVICES
(in millions of dollars)

BP-4A

	Fiscal Year							
	2016				**2017**			
	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing
Start-of-Year: Total	3,388	2,846	4,287	4,574	3,573	3,031	4,472	4,759
Plus: Annual Increase								
Cum.-Annual Treasury Borrowing	504	504	504		849	849	849	
Treasury Borrowing (Cash)				504				849
Less:								
BPA Bond Amortization	319	319	319	319	76	76	76	76
Net Increase/(Decrease):	185	185	185	185	773	773	773	773
Cum.-End-of-Year: Total	3,573	3,031	4,472	4,759	4,346	3,804	5,245	5,532
Total Remaining Treasury Borrowing Amount				2,941				2,168
Total Legislated Treasury Borrowing Amount				7,700				7,700

These notes are an integral part of this table.

In any given year, BPA may issue lower principal amount of bonds to the U.S. Treasury than forecast depending on net revenues, Treasury interest rates, and other cash management factors. In such cases, BPA accumulates a deferred borrowing balance that it accesses as necessary in the future.

Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

In this FY 2018 budget, BPA "bond(s)" refers to all bonds issued by Bonneville to and advances received from the U.S. Treasury. This reference is consistent with section 13 (a) of the Transmission Act, which defines BPA bonds as all bonds, notes, and other evidences of indebtednesses issued and sold by Bonneville to the U.S. Treasury.

As in the past, Bonneville may pursue future restructuring of total debt as opportunities arise.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving competitive electric utility industry.

Bonneville reserve financing of $15 million annually is assumed as part of TS capital-PFIA for FYs 2016-2022.

Cumulative advance amortization payments as of the end of FY 2016 are $4,333 million.

BONNEVILLE POWER ADMINISTRATION
BPA STATUS of U.S. TREASURY BORROWING
CURRENT SERVICES
(in millions of dollars)

BP-4B

	2018				2019			
	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing
Start-of-Year: Total	4,346	3,804	5,245	5,532	5,116	4,574	6,015	6,302
Plus: Annual Increase								
Cum.-Annual Treasury Borrowing	784	784	784		819	819	819	
Treasury Borrowing (Cash)				784				819
Less:								
Total BPA Bond Amortization	14	14	14	14	359	359	359	359
Net Increase/(Decrease):								
Total	770	770	770	770	460	460	460	460
Cum.-End-of-Year: Total	5,116	4,574	6,015	6,302	5,576	5,034	6,475	6,762
Total Remaining Treasury Borrowing Amount				1,398				938
Total Legislated Treasury Borrowing Amount				7,700				7,700

These notes are an integral part of this table.

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Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

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Bonneville reserve financing of $15 million annually is assumed as part of TS capital-PFIA for FYs 2016-2022.

Cumulative advance amortization payments as of the end of FY 2016 are $4,333 million.

BONNEVILLE POWER ADMINISTRATION
BPA STATUS of U.S. TREASURY BORROWING
CURRENT SERVICES
(in millions of dollars)

BP-4C Fiscal Year

	2020				2021			
	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing
Start-of-Year: Total	5,576	5,034	6,475	6,762	6,230	5,688	7,129	7,416
Plus: Annual Increase								
Cum.-Annual Treasury Borrowing	947	947	947		976	976	976	
Treasury Borrowing (Cash)				947				976
Less:								
Total BPA Bond Amortization	293	293	293	293	326	326	326	326
Net Increase/(Decrease):								
Total	654	654	654	654	650	650	650	650
Cum.-End-of-Year: Total	6,230	5,688	7,129	7,416	6,880	6,338	7,779	8,066
Total Remaining Treasury Borrowing Amount				284				(366)
Total Legislated Treasury Borrowing Amount				7,700				7,700

These notes are an integral part of this table.

In any given year, BPA may issue lower principal amount of bonds to the U.S. Treasury than forecast depending on net revenues, Treasury interest rates, and other cash management factors. In such cases, BPA accumulates a deferred borrowing balance that it accesses as necessary in the future.

Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

In this FY 2018 budget, BPA "bond(s)" refers to all bonds issued by Bonneville to and advances received from the U.S. Treasury. This reference is consistent with section 13 (a) of the Transmission Act, which defines BPA bonds as all bonds, notes, and other evidences of indebtednesses issued and sold by Bonneville to the U.S. Treasury.

As in the past, Bonneville may pursue future restructuring of total debt as opportunities arise.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving competitive electric utility industry.

Bonneville reserve financing of $15 million annually is assumed as part of TS capital-PFIA for FYs 2016-2022.

Cumulative advance amortization payments as of the end of FY 2016 are $4,333 million.

BONNEVILLE POWER ADMINISTRATION
BPA STATUS of U.S. TREASURY BORROWING
CURRENT SERVICES
(in millions of dollars)

BP-4D

	Fiscal Year 2022			
	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing
Start-of-Year: Total	6,880	6,338	7,779	8,066
Plus: Annual Increase				
Cum.-Annual Treasury Borrowing	981	981	981	
Treasury Borrowing (Cash)				981
Less:				
Total BPA Bond Amortization	298	298	298	298
Net Increase/(Decrease):				
Total	683	683	683	683
Cum.-End-of-Year: Total	7,563	7,021	8,462	8,749
Total Remaining Treasury Borrowing Amount				(1,049)
Total Legislated Treasury Borrowing Amount				7,700

These notes are an integral part of this table.

In any given year, BPA may issue lower principal amount of bonds to the U.S. Treasury than forecast depending on net revenues, Treasury interest rates, and other cash management factors. In such cases, BPA accumulates a deferred borrowing balance that it accesses as necessary in the future.

Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

In this FY 2018 budget, BPA "bond(s)" refers to all bonds issued by Bonneville to and advances received from the U.S. Treasury. This reference is consistent with section 13 (a) of the Transmission Act, which defines BPA bonds as all bonds, notes, and other evidences of indebtednesses issued and sold by Bonneville to the U.S. Treasury.

As in the past, Bonneville may pursue future restructuring of total debt as opportunities arise.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving competitive electric utility industry.

Bonneville reserve financing of $15 million annually is assumed as part of TS capital-PFIA for FYs 2016-2022.

Cumulative advance amortization payments as of the end of FY 2016 are $4,333 million.

BONNEVILLE POWER ADMINISTRATION
POTENTIAL THIRD PARTY FINANCING TRANSPARENCY
(in millions of dollars)

BP-5

		Fiscal Year						
Transmission Services - Capital		**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Main Grid	Requirements	16	49	5	48	99	104	127
Area & Customer Services		53	101	75	46	42	58	47
Upgrades & Additions		73	70	75	68	52	53	52
System Replacements		134	311	285	296	398	373	371
Projects Funded in Advance		272	42	40	39	36	35	35
Total, Transmission Services - Capital		**550**	**573**	**480**	**497**	**627**	**622**	**632**
Associated Project Costs - Capital								
Associated Project Costs	Requirements	187	246	265	288	313	339	346
Projects Funded in Advance[1/]		0	0	0	0	0	0	0
Total, Associated Project Costs - Capital		**187**	246	265	288	313	339	346
Federal and Non-Federal Funding								
Projects Funded in Advance	Sources	272	42	40	39	36	35	35
Treasury Borrowing Authority		464	777	704	746	905	926	943
Scenario								
Projects Funded in Advance[1/]	Scenario	0	0	0	0	0	0	0
Third Party Financing		254	265	220	229	296	294	299
Alternate Treasury Borrowing Authority		NA	512	484	517	609	632	644

These notes are an integral part of this table.

1/ In this instance, Projects Funded in Advance represents prepayment of Power customers' bills reimbursed by future credits and third party non-federal financing for Conservation initiatives.

The table above shows both the potential use of Treasury borrowing authority for transmission capital projects based on this FY 2018 budget and the use adjusted for potential third-party financing to fund appropriate capital expenditures when feasible in lieu of Treasury borrowing. Estimates included in this FY 2018 budget are uncertain and may change due to revised capital investment plans, changing economic conditions, and an evolving financial market environment. The estimates of third-party financing included in the table show a reduction in the use of Treasury borrowing and do not reflect the actual notional third party financing commitment BPA may enter into in that particular year. The difference of reduction in use of Treasury borrowing and the actual notional third party financing commitment is primarily due to the difference in the timing of financing transactions between Treasury and third-party financing for capital projects with multi-year construction schedules.

Bonneville's Third Party Financing for Transmission Services consists primarily of lease-purchase agreements, which are capitalized obligations that enable BPA to acquire the use of transmission facilities over time. BPA also undertakes the construction and installation of facilities from funds that customers advance to BPA for construction of BPA-owned facilities that assist the customers in obtaining necessary transmission service from BPA. These customers receive monetary payment credits in bills for transmission services from BPA up to the amount of funds advanced to BPA, plus interest.

BPA's historical Third Party Financing amounts may vary over time due to re-assignment of certain lease-purchase agreements to Treasury Financing.

BPA Status of Treasury Borrowing with Potential Third Party Financing & PFIA Scenario

With the potential use of third party financing assumed in the scenario above, BPA's total remaining Treasury Borrowing Amount would be extended to the following amounts. See BP-4 BPA Status of Treasury Borrowing- Current Services.

	Fiscal Year						
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Start-of-Year: Total Bonds Outstanding	4,574	4,759	5,267	5,817	6,048	6,406	6,762
Plus:							
Treasury Borrowing (Cash)	504	849	784	819	947	976	981
Less:							
Potential Third Party Financing & PFIA	NA	265	220	229	296	294	299
BPA Bond Amortization	319	76	14	359	293	326	298
Net Increase/(Decrease) Bonds Outstanding:	185	508	550	231	358	356	384
Cum.-End-of-Year: Total	4,759	5,267	5,817	6,048	6,406	6,762	7,147
Total Remaining Treasury Borrowing Amount	2,941	2,433	1,883	1,652	1,294	938	553
Total Legislated Treasury Borrowing Amount	7,700	7,700	7,700	7,700	7,700	7,700	7,700

U.S. TREASURY PAYMENTS

(in millions of dollars)

		FISCAL YEAR						
		2016	2017	2018	2019	2020	2021	2022
A.	**INTEREST ON BONDS & APPROPRIATIONS**							
	Bonneville Bond Interest							
1	Bonneville Bond Interest (net)	99	130	161	197	231	274	305
2	AFUDC [1/]	40	47	31	30	30	31	31
	Appropriations Interest							
3	Bonneville	14	9	5	0	0	0	0
4	Corps of Engineers [2/]	135	85	90	89	91	90	87
5	Lower Snake River Comp. Plan	17	16	4	1	0	0	0
6	Bureau of Reclamation [3/]	38	13	12	11	8	7	6
7	Bond Premiums paid/Discounts (not capitalized)		0	0	0	0	0	0
8	**Total Bond and Approp. Interest**	**343**	**301**	**303**	**327**	**360**	**402**	**430**
B.	**ASSOCIATED PROJECT COST**							
9	Bureau of Reclamation Irrigation Assistance	60	51	28	57	25	12	14
10	Bureau of Rec. O & M [4/]	1	0	0	0	0	0	0
11	Corps of Eng. O & M [4/]	0	0	0	0	0	0	0
12	L. Snake River Comp. Plan O & M [4/]	0	0	0	0	0	0	0
13	**Total Assoc. Project Costs**	**61**	**51**	**28**	**57**	**25**	**12**	**14**
C.	**CAPITAL TRANSFERS**							
	Amortization							
14	Bonneville Bonds [6/]	319	76	14	359	293	326	298
15	Bureau of Reclamation Appropriations	352	0	22	45	14	11	70
16	Corps of Engineers Appropriations	691	74	70	15	41	56	29
17	Lower Snake River Comp. Plan	0	0	36	12	4	0	1
18	Bonneville Appropriations	75	130	192	72	59	68	100
19	**Total Capital Transfers**	**1,437**	**280**	**333**	**502**	**410**	**462**	**497**
D.	**OTHER PAYMENTS**							
20	Unfunded Post-Retirement Liability [5/]	34	36	37	38	40	41	43
21	**TOTAL TREASURY PAYMENTS**	**1,875**	**668**	**701**	**924**	**835**	**917**	**985**

These notes are an integral part of this table.

1/ This interest cost is capitalized and included in BPA's Transmission System Development, System Replacments, and Associated Projects Capital programs. AFUDC is financed through the sale of bonds.

2/ Includes interest on construction funding for Corp of Engineers (Corps) fish bypass facilities at Corps dams in the Columbia River Basin, including Lower Monumental, Ice Harbor, and The Dalles.

3/ Includes payments paid by Reclamation to the U.S. Treasury on behalf of Bonneville.

4/ Costs for power O&M is funded directly by Bonneville as follows (in millions):

FISCAL YEAR	2016	2017	2018	2019	2020	2021	2022
Bureau of Reclamation	133	158	168	166	171	176	182
Corps of Engineers	238	251	257	257	265	273	281
Subtotal Bureau and Corps	371	409	425	423	436	449	462
Lower Snake River Comp. Plan	29	33	33	34	35	35	36
Total	399	442	459	457	470	484	498

5/ See Interest Expense, Pension and Post-retirement Benefits and Capital Transfers section of this budget for a complete discussion of these cost estimates.

6/ In this FY 2018 budget, BPA "bond(s)" refers to all bonds issued by Bonneville to and advances received from the U.S. Treasury. This reference is consistent with section 13 (a) of the Transmission Act, which defines BPA bonds as all bonds, notes, and other evidences of indebtednesses issued and sold by Bonneville to the U.S. Treasury.

Does not include Treasury bond premiums on refinanced Treasury bonds.

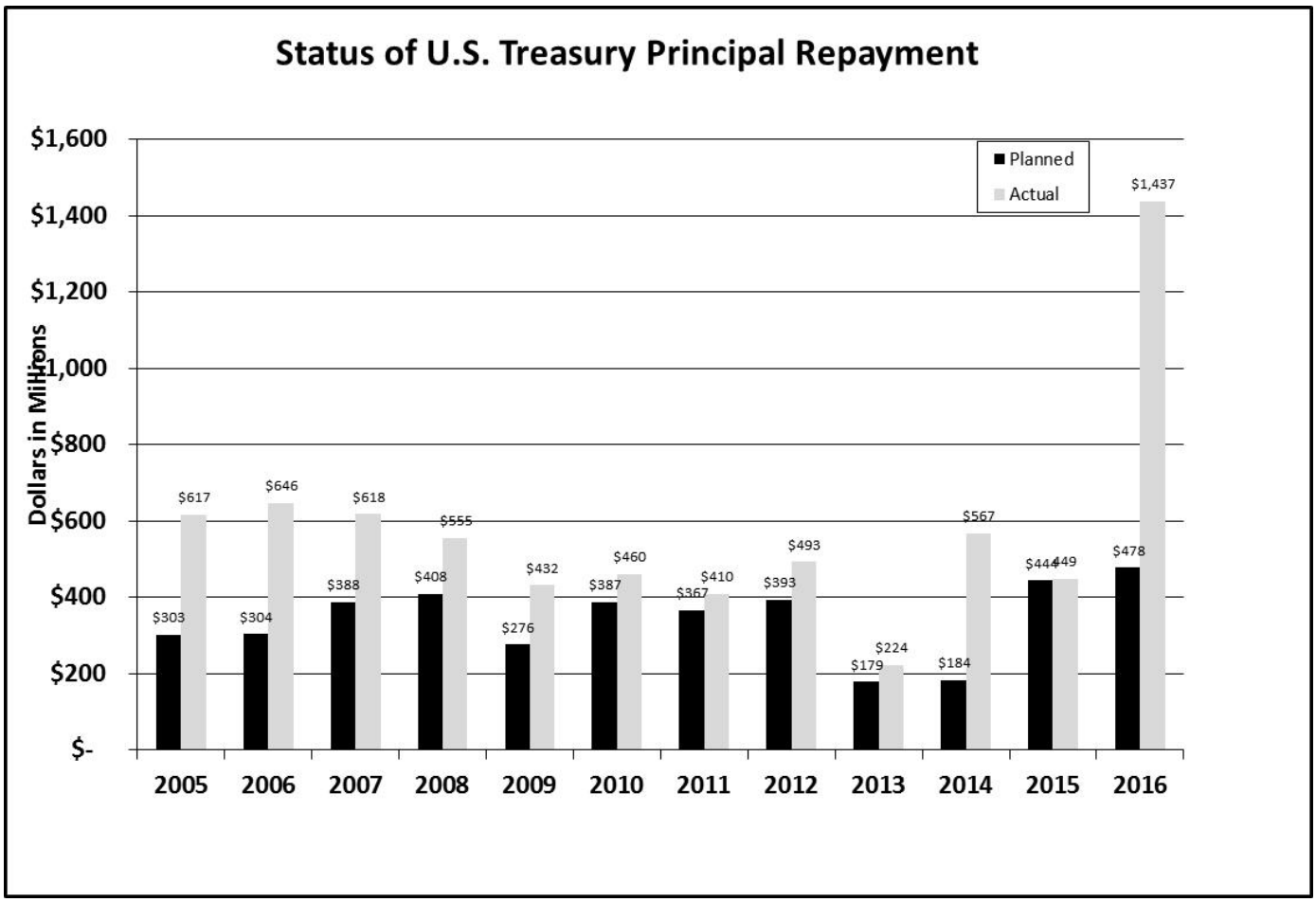


Chart Notes

[1/] This chart displays principal repayment only.

[2/] U.S. Treasury payment outyear estimates for planned amortization of principal are based on rate case estimates when available and planned amortization for future rate case periods. These estimates may change due to revised capital investment plans, actual U.S. Treasury borrowing, and advanced amortization payments. Bonneville's aggregate FY 2016 U.S. Treasury payment was $1,875 million, comprised of $1,437 million in principal, which included $959 million in early retirement of higher interest rate U.S. Treasury debt, $343 million in interest, and $96 million for other costs.

[3/] FYs 2002-2012 payments include portions of future planned amortization amounts consistent with Bonneville's capital strategy plan and the Bonneville /Energy Northwest debt optimization program.

[4/] Advance amortization due to sale of transmission facilities includes $12.7 million in FY 2003, $5.3 million in FY 2006, $2.0 million in FY 2011, $0.4 million in FY 2013 and $0.4 million in FY 2014.

[5/] The cumulative amount of actual advance amortization payments as of the end of FY 2016 is $4,333 million.

OBJECT CLASSIFICATION STATEMENT

(in millions of dollars)

		ESTIMATES				
		2016 act.		2017		2018
11.1	Full-time permanent	288		290		294
11.3	Other than full-time permanent	1		1		1
11.5	Other personnel compensation	51		52		52
11.9	**Total personnel compensation**	**341**		**343**		**347**
12.1	Civilian personnel benefits	155		157		158
13.0	Benefits for former personnel	-		-		-
21.0	Travel and transportation of persons	15		15		15
22.0	Transportation of things	2		2		2
23.1	Rental payments to GSA	1		1		1
23.2	Rents, other	0		0		0
23.3	Communication, utilities & misc. charges	18		18		18
25.1	Consulting Services	125		126		127
25.2	Other Services	2,261		2,281		2,307
25.5	R & D Contracts	13		11		11
26.0	Supplies and materials	29		29		29
31.0	Equipment	548		552		558
32.0	Lands and structures	253		255		258
41.0	Grants, subsidies, contributions	45		46		46
42.0	Insurance claims and indemnities	36		36		36
43.0	Interest and dividends	265		267		270
99.0	**Total obligations**	**4,107**		**4,138**		**4,185**

Estimate of Receipts
(in millions of dollars)

	Fiscal Year						
	2016	2017	2018	2019	2020	2021	2022
Reclamation Interest	38	13	12	11	8	7	6
Reclamation Amortization	352	0	22	45	14	11	70
Reclamation O&M	1	0	0	0	0	0	0
Reclamation Irrig. Assist.	60	51	28	57	25	12	14
Revenues Collected by Reclamation	-16	-7	-7	-7	-7	-7	-7
Distributed in Treasury Account (credit)							
Colville Settlement (credit)	-5	-5	-5	-5	-5	-5	-5
Total 1/ Reclamation Fund	**430**	**53**	**50**	**101**	**34**	**18**	**78**
Corps O&M							
CSRS	34	36	37	38	40	41	43
Total 2/ Repayments on misc.costs	**34**	**36**	**37**	**38**	**40**	**41**	**43**

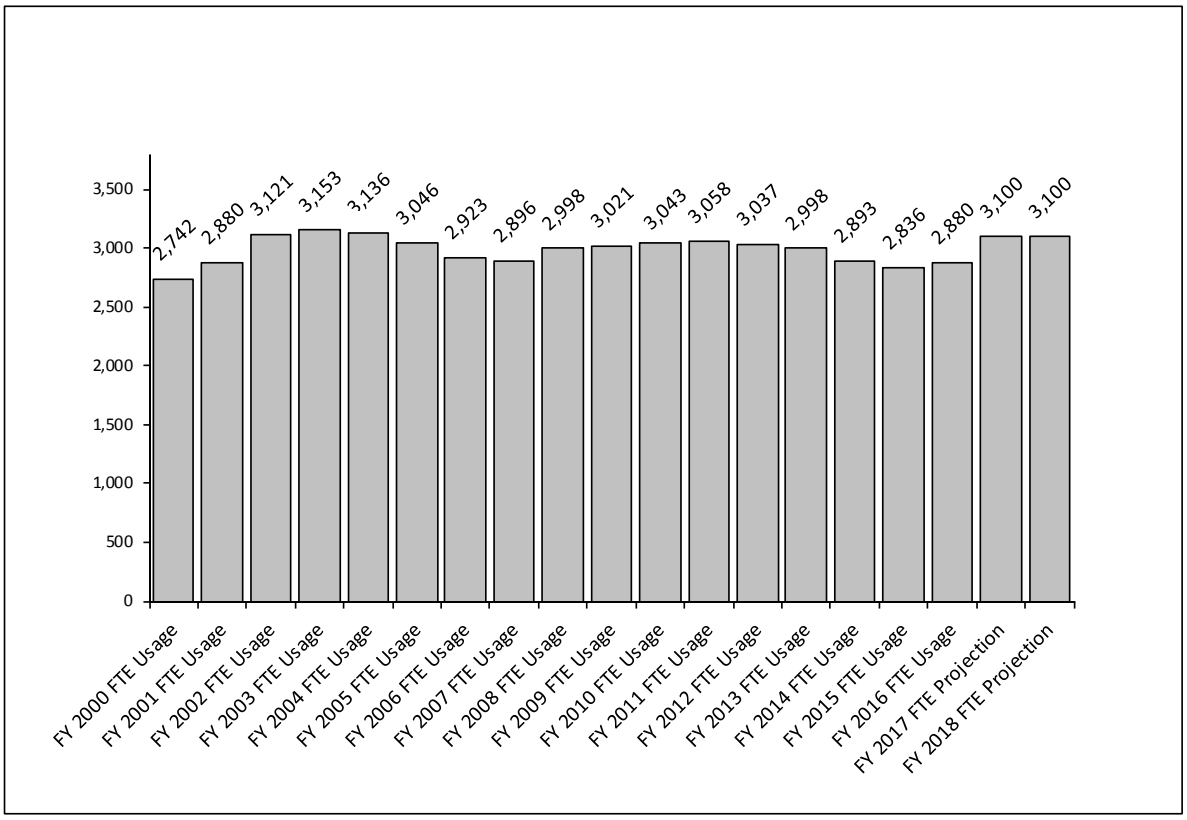
1/ Includes amortization of appropriations and irrigation assistance, and interest costs for Reclamation. The cost of power O&M for Reclamation is no longer included in Proprietary Receipts due to Direct Funding by Bonneville. Represents transfer to Account #895000.26

2/ The costs of power O&M for the Corps and Lower Snake Comp. Plan are no longer included in Proprietary Receipts due to Direct Funding by Bonneville. Represents transfers to Account #892889, Repayments on misc. recoverable costs, not otherwise classified. Costs for power O&M is funded directly by Bonneville as follows (in millions)

	2016	2017	2018	2019	2020	2021	2022
Bureau of Reclamation	133	158	168	166	171	176	182
Corps of Engineers	238	251	257	257	265	273	281
Lower Snake River Comp. Plan	29	33	33	34	35	35	36
Total	**399**	**442**	**459**	**457**	**470**	**484**	**498**

See Interest Expense, Pension and Post-retirement Benefits and Capital Transfers section of this budget for a complete discussion of these cost estimates.

BONNEVILLE FTE



Actual FTE data is consistent with DOE personnel reports.

FTE outyear data are estimates and may change. Bonneville is facing a dynamic and changing transmission marketplace and operations while, at the same time, many of its employees are eligible to retire in the near future. It is important that Bonneville continue to attract and retain skilled individuals to meet the growing demands of a competitive and rapidly changing industry. Accordingly, FTE estimates may need to be adjusted in the future.

Total Cost of BPA Fish & Wildlife Actions

COST ELEMENT	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
CAPITAL INVESTMENTS [1/]										
BPA FISH AND WILDLIFE	35.2	25.5	27.4	40.0	90.2	57.5	52.1	37.4	21.4	16.0
BPA SOFTWARE DEVELOPMENT COSTS	1.0	1.3	0.6	1.2	0.8	0.4	0.0	0.1	1.4	1.2
ASSOCIATED PROJECTS (FEDERAL HYDRO)	60.4	37.3	135.7	56.4	103.0	114.5	103.6	101.7	81.4	34.1
TOTAL CAPITAL INVESTMENTS	**96.6**	**64.2**	**163.7**	**97.6**	**193.9**	**172.3**	**155.7**	**139.2**	**104.1**	**51.4**
PROGRAM EXPENSES										
BPA DIRECT FISH AND WILDLIFE PROGRAM	139.5	148.9	177.9	199.6	221.1	248.9	239.0	231.8	258.2	258.1
FISH & WILDLIFE SOFTWARE EXPENSE COSTS							0.2	0.3	0.1	0.0
SUPPLEMENTAL MITIGATION PROGRAM EXPENSES [2/]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REIMBURSABLE/DIRECT-FUNDED PROJECTS [3/]										
O & M LOWER SNAKE RIVER HATCHERIES	19.3	19.4	20.8	23.3	24.5	22.0	28.7	31.0	30.9	28.6
O & M CORPS OF ENGINEERS	32.9	34.4	34.3	36.5	40.3	41.1	39.2	47.8	46.4	48.2
O & M BUREAU OF RECLAMATION	3.9	4.3	4.5	5.2	5.0	5.3	5.6	6.6	2.6	6.0
NW POWER AND CONSERVATION COUNCIL ALLOCATED @ 50%	4.2	4.1	4.7	4.7	4.5	4.6	5.0	4.9	4.9	5.4
SUBTOTAL (REIMB/DIRECT-FUNDED)	60.3	62.2	64.3	69.7	74.3	73.0	78.5	90.3	84.9	88.2
TOTAL OPERATING EXPENSES	**199.7**	**211.1**	**242.1**	**269.3**	**295.3**	**321.9**	**317.70**	**322.40**	**343.17**	**346.34**
PROGRAM RELATED FIXED EXPENSES [4/]										
INTEREST EXPENSE	76.0	76.9	78.7	80.5	79.2	80.6	89.1	83.4	89.2	85.6
AMORTIZATION EXPENSE	22.9	24.4	24.6	25.0	28.3	30.2	35.7	38.7	41.3	42.5
DEPRECIATION EXPENSE	14.0	14.9	16.7	18.0	19.6	20.7	18.6	19.2	20.1	20.1
TOTAL FIXED EXPENSES	**112.9**	**116.2**	**120.0**	**123.5**	**127.2**	**131.5**	**143.4**	**141.3**	**150.6**	**148.2**
GRAND TOTAL PROGRAM EXPENSES	**312.7**	**327.3**	**362.1**	**392.8**	**422.5**	**453.4**	**461.1**	**463.7**	**493.7**	**494.6**
FORGONE REVENUES AND POWER PURCHASES										
FOREGONE REVENUES	282.6	273.5	142.8	99.4	156.7	152.2	135.5	122.7	195.8	76.6
BPA POWER PURCH. FOR FISH ENHANCEMENT	120.7	274.9	240.3	310.1	70.7	38.5	85.8	196.2	67.5	50.3
TOTAL FOREGONE REVENUES AND POWER PURCHASES	**403.3**	**548.5**	**383.1**	**409.5**	**227.4**	**190.7**	**221.3**	**318.9**	**263.3**	**126.9**
TOTAL PROGRAM EXPENSES, FOREGONE REVENUES, & POWER PURCHASES	**716.0**	**875.8**	**745.3**	**802.3**	**649.9**	**644.1**	**682.4**	**782.6**	**757.0**	**621.5**
CREDITS										
4(h)(10)(C)	(66.1)	(100.5)	(99.5)	(122.8)	(85.3)	(77.0)	(84.1)	(103.9)	(77.7)	(72.6)
TOTAL CREDITS	**(66.1)**	**(100.5)**	**(99.5)**	**(122.8)**	**(85.3)**	**(77.0)**	**(84.1)**	**(103.9)**	**(77.7)**	**(72.6)**

1/ Capital Investments include both BPA's direct Fish and Wildlife Program capital investments, funded by BPA's Treasury borrowing, and "Associated Projects", which include capital investments at Corps of Engineers' and Bureau of Reclamation projects, funded by appropriations and repaid by BPA. The negative amount in FY 1997 reflects a decision to reverse "plant-in-service" investment that was never actually placed into service. The annual expenses associated with these investments are included in "Program-Related Fixed Expenses", below.

2/ Includes High Priority and Action Plan Expenses and other supplemental programs.

3/ "Reimbursable/Direct-Funded Projects" includes the portion of costs BPA pays to or on behalf of other entities that is determined to be for fish and wildlife purposes.

4/ "Fixed Expenses" include depreciation, amortization and interest on investments on the Corps of Engineers' projects, and amortization and interest on the investments associated with BPA's direct Fish and Wildlife Program.

GENERAL PROVISIONS – DEPARTMENT OF ENRGY
(INCLUDING TRANSFER OF FUNDS)

SEC. 301. (a) No appropriation, funds, or authority made available by this title for the Department of Energy shall be used to initiate or resume any program, project, or activity or to prepare or initiate Requests For Proposals or similar arrangements (including Requests for Quotations, Requests for Information, and Funding Opportunity Announcements) for a program, project, or activity if the program, project, or activity has not been funded by Congress.

(b) (1) Unless the Secretary of Energy notifies the Committees on Appropriations of both Houses of Congress at least 3 full business days in advance, none of the funds made available in this title may be used to—

(A) make a grant allocation or discretionary grant award totaling $1,000,000 or more;

(B) make a discretionary contract award or Other Transaction Agreement totaling $1,000,000 or more, including a contract covered by the Federal Acquisition Regulation;

(C) issue a letter of intent to make an allocation, award, or Agreement in excess of the limits in subparagraph (A) or (B); or

(D) announce publicly the intention to make an allocation, award, or Agreement in excess of the limits in subparagraph (A) or (B).

(2) The Secretary of Energy shall submit to the Committees on Appropriations of both Houses of Congress within 15 days of the conclusion of each quarter a report detailing each grant allocation or discretionary grant award totaling less than $1,000,000 provided during the previous quarter.

(3) The notification required by paragraph (1) and the report required by paragraph (2) shall include the recipient of the award, the amount of the award, the fiscal year for which the funds for the award were appropriated, the account and program, project, or activity from which the funds are being drawn, the title of the award, and a brief description of the activity for which the award is made.

(c) The Department of Energy may not, with respect to any program, project, or activity that uses budget authority made available in this title under the heading "Department of Energy—Energy Programs", enter into a multiyear contract, award a multiyear grant, or enter into a multiyear cooperative agreement unless—

(1) the contract, grant, or cooperative agreement is funded for the full period of performance as anticipated at the time of award; or

(2) the contract, grant, or cooperative agreement includes a clause conditioning the Federal Government's obligation on the availability of future year budget authority and the Secretary notifies the Committees on Appropriations of both Houses of Congress at least 3 days in advance.

(d) Except as provided in subsections (e), (f), and (g), the amounts made available by this title shall be expended as authorized by law for the programs, projects, and activities specified in the "Final Bill" column in the "Department of Energy" table included under the heading "Title III—Department of Energy" in the explanatory statement accompanying this Act.

(e) The amounts made available by this title may be reprogrammed for any program, project, or activity, and the Department shall notify the Committees on Appropriations of both Houses of Congress at least 30 days prior to the use of any proposed reprogramming that would cause any program, project, or activity funding level to increase or decrease by more than $5,000,000 or 10 percent, whichever is less, during the time period covered by this Act.

(f) None of the funds provided in this title shall be available for obligation or expenditure through a reprogramming of funds that—

(1) creates, initiates, or eliminates a program, project, or activity;

(2) increases funds or personnel for any program, project, or activity for which funds are denied or restricted by this Act; or

(3) reduces funds that are directed to be used for a specific program, project, or activity by this Act.

(g) (1) The Secretary of Energy may waive any requirement or restriction in this section that applies to the use of funds made available for the Department of Energy if compliance with such requirement or restriction would pose a substantial risk to human health, the environment, welfare, or national security.

(2) The Secretary of Energy shall notify the Committees on Appropriations of both Houses of Congress of any waiver under paragraph (1) as soon as practicable, but not later than 3 days after the date of the activity to which a requirement or restriction would otherwise have applied. Such notice shall include an explanation of the substantial risk under paragraph (1) that permitted such waiver.

SEC. 302. The unexpended balances of prior appropriations provided for activities in this Act may be available to the same appropriation accounts for such activities established pursuant to this title. Available balances may be merged with funds in the applicable established accounts and thereafter may be accounted for as one fund for the same time period as originally enacted.

SEC. 303. Funds appropriated by this or any other Act, or made available by the transfer of funds in this Act, for intelligence activities are deemed to be specifically authorized by the Congress for purposes of section 504 of the National Security Act of 1947 (50 U.S.C. 3094) during fiscal year 2018 until the enactment of the Intelligence Authorization Act for fiscal year 2018.

SEC. 304. None of the funds made available in this title shall be used for the construction of facilities classified as high-hazard nuclear facilities under 10 CFR Part 830 unless independent oversight is conducted by the Office of Enterprise Assessments to ensure the project is in compliance with nuclear safety requirements.

SEC. 305. None of the funds made available in this title may be used to approve critical decision–2 or critical decision–3 under Department of Energy Order 413.3B, or any successive departmental guidance, for construction projects where the total project cost exceeds $100,000,000, until a separate independent cost estimate has been developed for the project for that critical decision.

SEC. 306. Notwithstanding section 301(c) of this Act, none of the funds made available under the heading "Department of Energy—Energy Programs—Science" in this or any subsequent Energy and Water Development and Related Agencies appropriations Act for any fiscal year may be used for a multiyear contract, grant, cooperative agreement, or Other Transaction Agreement of $1,000,000 or less unless the contract, grant, cooperative agreement, or Other Transaction Agreement is funded for the full period of performance as anticipated at the time of award.

SEC. 307. (a) NEW REGIONAL RESERVES.—The Secretary of Energy may not establish any new regional petroleum product reserve unless funding for the proposed regional petroleum product reserve is explicitly requested in advance in an annual budget submission and approved by the Congress in an appropriations Act.

(b) The budget request or notification shall include—

(1) the justification for the new reserve;

(2) a cost estimate for the establishment, operation, and maintenance of the reserve, including funding sources;

(3) a detailed plan for operation of the reserve, including the conditions upon which the products may be released;

(4) the location of the reserve; and

(5) the estimate of the total inventory of the reserve.

SEC. 308. Uranium Lease and Take-Back Revolving Fund.—There is hereby established in the Treasury of the United States a fund to be known as the "Uranium Lease and Take-Back Revolving Fund" (the Fund), which shall be available without fiscal year limitation, for Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other expenses necessary in carrying out section 3173 of the National Defense Authorization Act for Fiscal Year 2013. For initial capitalization, there is appropriated $1,000,000 to the Fund. Notwithstanding 31 U.S.C. 3302, revenues received under section 3173 of such Act in this and subsequent fiscal years shall be credited to the Fund to be available for carrying out the purposes of the Fund without further appropriation. Funds collected in fiscal year 2018 shall be credited as offsetting collections to the Fund, so as to result in a final fiscal year 2018 appropriation from the general fund estimated at not more than $0.

SEC. 309. Treatment of Lobbying and Political Activity Costs as Allowable Costs under Department of Energy Contracts.

(a) Allowable Costs.—

(1) Section 4801(b) of the Atomic Energy Defense Act (50 U.S.C. 2781(b)) is amended—

(A) by striking "(1)" and all that follows through "the Secretary" and inserting "The Secretary"; and

(B) by striking paragraph (2).

(2) Section 305 of the Energy and Water Development Appropriation Act, 1988, as contained in section 101(d) of Public Law 100–202 (101 Stat. 1329–125), is repealed.

(b) Regulations Revised.—The Secretary of Energy shall revise existing regulations consistent with the repeal of 50 U.S.C. 2781(b)(2) and section 305 of Public Law 100–202 and shall issue regulations to implement 50 U.S.C. 2781(b), as

amended by subsection (a), no later than 150 days after the date of the enactment of this Act. Such regulations shall be consistent with the Federal Acquisition Regulation 48 C.F.R. 31.205–22.

SEC. 310. Not to exceed 5 percent of any appropriation made available for Department of Energy activities funded in this Act may be transferred between such appropriations, but no such appropriation, except as otherwise provided, shall be increased or decreased by more than 5 percent by any such transfers, and notification of any such transfers shall be submitted promptly to the Committees on Appropriations of the House of Representatives and the Senate.

SEC. 311. Notwithstanding section 161 of the Energy Policy and Conservation Act (42 U.S.C. 6241), the Secretary of Energy shall draw down and sell one million barrels of refined petroleum product from the Strategic Petroleum Reserve during fiscal year 2018. Proceeds from sales under this section shall be deposited into the general fund of the Treasury during fiscal year 2018.

Title V – General Provisions

SEC. 501. None of the funds appropriated by this Act may be used in any way, directly or indirectly, to influence congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 U.S.C. 1913.

SEC. 502. None of the funds made available by this Act may be used in contravention of Executive Order No. 12898 of February 11, 1994 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations).