Southeastern Power Administration
Proposed Appropriation Language

For expenses necessary for operation and maintenance of power transmission facilities and for 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 area, $8,173,000, 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 $8,173,000, 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 2023 appropriation estimated at not more than $0: Provided further, That, notwithstanding 31 U.S.C. 3302, up to $78,696,000 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).

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

Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request
Gross	77,409	77,409	100,960
Offsets	-77,409	-77,409	-100,960
Net BA	0	0	0

Outyear Funding ($K)

	FY 2024 Request	FY 2025 Request	FY 2026 Request	FY 2027 Request
Gross	103,271	105,696	108,130	110,960
Offsets	-103,271	-105,696	-108,130	-110,960
Net BA	0	0	0	0

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 473 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 2023 budget provides funding for annual expenses (Program Direction) through discretionary offsetting collections derived from power receipts collected to recover those expenses.

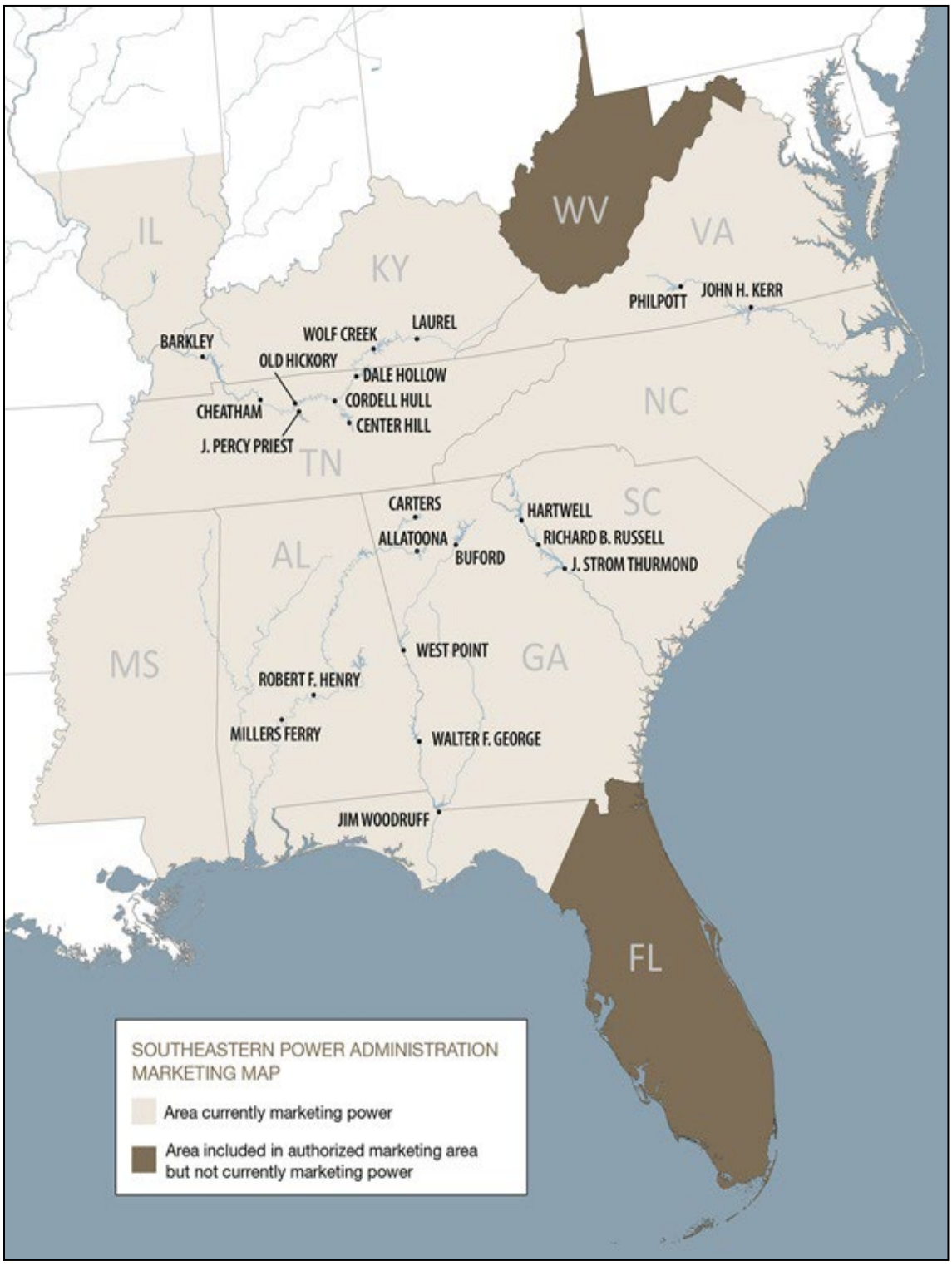
Outyear Priorities and Assumptions

In the FY 2012 Consolidated Appropriations Act (P.L. 112-74), Congress directed the Department to include a future-years energy program (FYEP) in subsequent requests that reflects the proposed appropriations for five years. This FYEP shows outyear funding for each account for FY 2024 - FY 2027. The outyear funding levels use the growth rates from and match the outyear account totals published in the FY 2023 President's Budget for both the 050 and non-050 accounts. Actual future budget request levels will be determined as part of the annual budget process.

SPWA priorities in the outyears include the following:

- Southeastern's request for FY 2023 increases Purchase Power and Wheeling (+$26.524 million), reflecting changes in transmission rates and rainfall estimates, and decreases Program Direction (-$2.973 million) based on more accurate cost estimates.

Service Area Map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WOLF CREEK
BARKLEY
OLD HICKORY
DALE HOLLOW
CHEATHAM
CORDELL HULL
CENTER HILL
J. PERCY PRIEST
CARTERS
HARTWELL
ALLATOONA
RICHARD B. RUSSELL
BUFORD
J. STROM THURMOND
WEST POINT
ROBERT F. HENRY
MILLERS FERRY
WALTER F. GEORGE
JIM WOODRUFF
SOUTHEASTERN POWER ADMINISTRATION
MARKETING MAP
Area currently marketing power
Area included in authorized marketing area
but not currently marketing power

Southeastern Power Administration
Funding by Congressional Control ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Southeastern Power Administration					
Purchase Power and Wheeling (PPW)	66,163	66,163	92,687	26,524	40%
Program Direction (PD)	11,246	11,246	8,273	-2,973	-26%
Subtotal, Southeastern Power Administration	**77,409**	**77,409**	**100,960**	23,551	30%
Offsetting Collections, PPW	-52,000	-52,000	-78,696	-26,696	51%
Alternative Financing, PPW	-14,163	-14,163	-13,991	172	-1%
Offsetting Collections, Annual Expenses, PD	-7,246	-7,246	-8,173	-927	13%
Alternative Financing, PD	-4,000	-4,000	-100	3,900	-98%
Total, Southeastern Power Administration	**0**	**0**	**0**	**0**	0%
Federal FTEs	**44**	**44**	**44**	0	0%

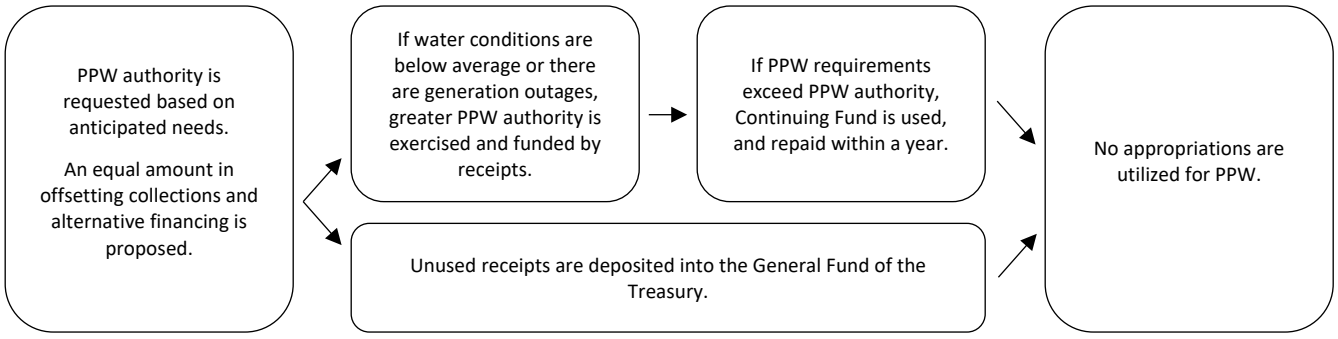
Purchase Power and Wheeling

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 2023 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 2023 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 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Purchase Power					
Replacement Power	3,797	3,797	7,447	3,650	96%
Russell Project pumping power	6,770	6,770	12,017	5,247	78%
Carters Project pumping power	5,500	5,500	13,244	7,744	141%
Jim Woodruff Project support	2,600	2,600	2,000	-600	-23%
Total, Purchase Power	18,667	18,667	34,708	16,041	86%
Wheeling					
Wheeling service charges	42,756	42,756	53,239	10,483	25%
Ancillary Services	4,740	4,740	4,740	0	0%
Total, Wheeling	47,496	47,496	57,979	10,483	22%
Total, Purchase Power and Wheeling	66,163	66,163	92,687	26,524	40%
Alternative Financing					
Net Billing	-14,163	-14,163	-13,991	172	-1%
Subtotal, Purchase Power and Wheeling	52,000	52,000	78,696	26,696	51%
Offsetting Collections Realized	-52,000	-52,000	-78,696	-26,696	51%
Total, Purchase Power and Wheeling Budget Authority	**0**	**0**	**0**	0	0%

Southeastern Power Administration
Purchase Power and Wheeling
($K)

Activities, Milestones, and Explanation of Changes ($K)

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Purchase Power and Wheeling $66,163	**$92,687**	**+$26,524**
Purchase Power $18,667	**$34,708**	**+$16,041**
• 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.	• Reflects anticipated needs based on projected market prices.
Wheeling $47,496	**$57,979**	**+$10,483**
• 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.	• Reflects variations 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 2023 Budget Request

The FY 2023 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 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Program Direction Summary					
Southeastern Power Administration					
Salaries and Benefits	5,500	5,500	5,800	300	5%
Travel	50	50	50	0	0%
Support Services	0	0	0	0	0%
Other Related Expenses	5,696	5,696	2,423	-3,273	-57%
Subtotal, Southeastern Power Administration	**11,246**	**11,246**	**8,273**	-2,973	-26%
Offsetting Collections (annual expenses)	-7,246	-7,246	-8,173	-927	13%
Alternative Financing, PD	-4,000	-4,000	-100	3,900	-98%
Total, Program Direction	**0**	**0**	**0**	0	0%
Federal FTEs	**44**	**44**	**44**	0	0%
Support Services and Other Related Expenses					
Support Services					
Management and Professional Support Services	0	0	0	0	0%
Total, Support Services	**0**	**0**	**0**	0	0%
Other Related Expenses					
Training	21	21	35	14	67%
Communications, Utilities, Misc.	209	209	285	76	36%
Equipment	129	129	426	297	230%
Maintenance Agreements	430	430	570	140	33%
Land and Structures	4,000	4,000	0	-4,000	0%
Rent to GSA	0	0	0	0	0%
Tuition	48	48	75	27	56%
Contract Services	472	472	552	80	17%
Audit of Financial Statements	257	257	320	63	25%
Supplies and Materials	73	73	85	12	16%
Working Capital Fund	49	49	65	16	33%
Printing and Reproduction	8	8	10	2	25%

Total, Other Related Expenses	**5,696**	**5,696**	**2,423**	-3,273	-57%

Program Direction
($K)

Activities, Milestones, and Explanation of Changes ($K)

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Program Direction $11,246	**$8,273**	**-$2,937**
Salaries and Benefits $5,500	**$5,800**	**+$300**
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, retirement payouts for unused leave, and newly hired FTEs.	Continue funding support for Federal salaries and benefits for 44 FTEs.	Continue funding support for Federal salaries and benefits including the recruiting and retaining of FTEs.
Travel $50	**$50**	**$0**
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.	Continued use of conference calls, webinar sessions, internet training, and video conferencing.
Support Services $0	**$0**	**$0**
Funding supports preference customers' efforts in support of the Energy Policy Act of 2005.	No funding is requested for FY 2023.	Reduced customer participation in program funding.
Other Related Expenses $5,696	**$2,423**	**-$3,273**
Funding provides administrative support for office, emergency control center, communications, maintenance, contract services, supplies, materials, 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 and emergency control center, along with services of the Power Marketing Liaison Office, and the Human Resources Shared Service Center (HRSSC).	Reflects required hardware purchases and software service agreements and updates along with training, tuition, and communications costs. Costs are based on the historical usage and actual cost of similar items as well as inflationary increases. FY 2021 request included $4 million to purchase headquarters facility. FY 2023 request reflects costs associated with ownership of headquarters building.

Additional Tables

Revenue and Receipts ($K)

	FY 2021 Actual	FY 2022 Estimate	FY 2023 Estimate	FY 2024 Estimate	FY 2025 Estimate	FY 2026 Estimate	FY 2027 Estimate
Gross Revenues	295,705	325,095	326,782	328,933	331,199	333,577	336,075
Net Billing (Credited as an Offsetting Receipt)	-13,742	-13,353	-13,991	-14,169	-14,355	-14,551	-14,757
Total Cash Receipts	281,963	311,742	312,791	314,764	316,844	319,026	321,318
Use of Offsetting Collections to fund PPW	-52,000	-53,000	-78,696	-80,674	-82,754	-84,936	-87,229
Use of Offsetting Collections to fund Annual Expenses	-9,746[a]	-7,184	-8,173	-8,428	-8,587	-8,643	-8,704
Total Receipts, net use of Offsetting Collections	222,717	251,558	225,922	225,662	225,503	225,447	225,385
Cumberland Rehabilitation	-49,169	-50,000	-50,000	-50,000	-50,000	-50,000	-50,000
GA-AL-SC Rehabilitation	-12,735	-15,000	-15,000	-15,000	-1,500	-1,500	-1,500
Kerr-Philpott Rehabilitation	-3,000	-5,000	-5,000	-5,000	-5,000	-5,000	-5,000
Jim Woodruff	-350	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000
Accts Rec Yearly Difference	-3,603	0	0	0	0	0	0
Total Proprietary Receipts	151,360	180,558	154,922	154,662	168,003	167,947	167,885
Percent of Sales to Preference Customers	99%	99%	99%	99%	99%	99%	99%
Energy Sales and Power Marketed (megawatt-hours)	8,128,837	5,587,740	5,587,740	5,587,740	5,587,740	5,587,740	5,587,740

Alternative Financing

2021	Transmission	Purchase Power	Offsetting Collections	Net Billing	Appropriated Funds
Jim Woodruff System	360	613	-138	-835	0
Kerr-Philpott System	17,807	0	-17,807	0	0
GA-AL-SC System	35,980	1,226	-33,980	-3,226	0
Cumberland System	9,756	0	-75	-9,681	0
	63,903	1,839	-52,000	-13,742	0

2022	Transmission	Purchase Power	Offsetting Collections	Net Billing	Appropriated Funds
Jim Woodruff System	359	2,600	-2,259	-700	0
Kerr-Philpott System	10,171	0	-10,171	0	0
GA-AL-SC System	27,605	16,464	-40,496	-3,573	0
Cumberland System	9,154	0	-74	-9,080	0
	47,289	19,064	-53,000	-13,353	0

2023	Transmission	Purchase Power	Offsetting Collections	Net Billing	Appropriated Funds
Jim Woodruff System	348	2,000	-1,648	-700	0
Kerr-Philpott System	18,830	0	-18,830	0	0
GA-AL-SC System	28,986	32,708	-58,139	-3,555	0

[a] Includes $2.5 million for purchase of headquarters building.

Cumberland System	9,815	0	-80	-9,735	0
	57,979	34,708	-78,697	-13,990	0

Power Marketed, Wheeled, or Exchanged by Project

Project	State	Plants	Installed Capacity (KW)	FY 2021 Estimated Power (GWH)	FY 2022 Estimated Power (GWH)	FY 2023 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 2021 Actual	FY 2022 Estimate	FY 2023 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)	7,938,831	4,685,000	4,685,000
Energy generated from Pumping (MWH)	187,519	745,100	745,100
Energy Purchased for Replacement (MWH)	2,487	157,640	157,640
Total, Energy available for marketing [b] (MWH)	8,128,837	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.

Southwestern Power Administration
Proposed Appropriation Language

For expenses necessary for operation and maintenance of power transmission facilities and for 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, $53,488,000 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 $42,880,000 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 2023 appropriation estimated at not more than $ 10,608,000: Provided further, That, notwithstanding 31 U.S.C. 3302, up to $70,000,000 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 2022 appropriation for this account was not enacted at the time the Budget was prepared; therefore, the Budget assumes this account is operating under the Continuing Appropriations Act, 2022 (Division A of P.L. 117-43, as amended). The amounts included for 2022 reflect the annualized level provided by the continuing resolution.

Explanation of Changes

No changes.

Public Law Authorizations

Southwestern Power Administration:

- 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
Overview
($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request
Gross	116,194	116,194	162,802
Offsets	-105,794	-105,794	-152,194
Net BA	10,400	10,400	10,608

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 military installations in the six states of Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas[1]. In turn, these customers distribute that power to approximately 10 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 1,381 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, and has maintenance facilities in Gore, Oklahoma; Jonesboro, Arkansas; and Springfield, Missouri. In addition, around-the-clock power scheduling and dispatching are conducted by staff in Southwestern's Operations Center located in southwest Missouri.

Southwestern participates in the Southwest Power Pool (SPP) Regional Transmission Organization (RTO) and the Midcontinent Independent System Operator (MISO) RTO, which reinforces Southwestern's role as part of the Nation's interconnected generation and transmission system. In participation with the RTOs, Southwestern works on regional and interregional transmission policy initiatives in response to the evolution of the electric utility industry. Furthermore, Southwestern coordinates its varied utility activities in conjunction with a broader group of stakeholders. As the demand for the transmission of power increases across regional and interregional footprints, maintaining and improving the Nation's energy infrastructure through improvements, replacements, interconnections, and coordination with the RTOs in Southwestern's marketing area has become more critical than ever. Southwestern assures the efficient and reliable delivery of Federal hydropower, thus fulfilling clean energy security for the present as well as for future generations.

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. Hydropower is not only an important part of the Nation's clean energy portfolio due to clean generation capabilities, but it also provides support for other renewable resources. Federal hydropower supports the Nation's grid and complements other generation to create stability as the industry faces energy production changes, organized market evolution and increased threats to the grid. Hydroelectric power is a domestic energy source that helps America achieve clean energy security. Southwestern markets an average of 5,570 gigawatt-hours of clean renewable 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.

[1] Southwestern's system map can be found at https://www.swpa.gov/PDFs/SystemMap2016.pdf?v=2018.

- Maintain infrastructure and modernize systems to increase the resilience, reliability, efficiency, and use of Federal assets. This will be accomplished using appropriations; Federal power receipts; and alternative financing arrangements, which include net billing and/or reimbursable authority (customer advances).[2]
- 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 1200-hour peaking power contractual obligations with necessary purchase power and wheeling using Federal power receipts; alternative financing arrangements, which include net billing 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 grid resilience and cyber and physical security postures using best-available technologies and in cooperation with Department of Energy (DOE) and industry partners to protect the Federal transmission system and the Nation's power grid. 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 will continue to emphasize security, both cyber and physical, as an agency priority.

External factors that present potential impacts to the overall achievement of the programs' strategic goals include weather, natural disasters, NERC reliability standards, industry market developments, 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 maintenance and replacement 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.
- The potential for malicious physical and cyber-attacks on Southwestern's assets remains a primary concern. These attacks, cyber and physical, on a utility's operation would threaten electric system reliability and potentially result in large scale power outages.
- As more of Southwestern's employees retire or leave Federal service, Southwestern must compete 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.
- 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.
- The Corps water resources projects from which Southwestern markets the hydropower are all multi-purpose. As the demand for water for other purposes increases, energy generation and operating capacity of the hydropower units can be impacted by loss of water storage and availability as well as required operational changes.
- Extreme regional weather events have demonstrated increased price volatility for potential replacement energy purchases necessary to meet contractual power delivery obligations.
- Greater support for climate resilience, regional grid reliability, infrastructure investment, and rate stability as regional utility customers make decisions to transition to cleaner energy resources.

Highlights of the FY 2023 Budget Request

[2] Southwestern's authority to use net billing is inherent in the authority provided by the Flood Control Act of 1944 and has been affirmed by the Comptroller General to the Honorable Secretary of the Interior B-125127 (February 14, 1956). This allows Southwestern to accept goods and services in lieu of payment.

Southwestern requests a net appropriation of $10.6 million for FY 2023. Southwestern's appropriation consists of four subprograms: Operations and Maintenance, Construction, Purchase Power and Wheeling, and Program Direction. Southwestern utilizes a variety of financing methods including appropriations, Federal power receipts, and alternative financing arrangements, which include net billing and/or reimbursable authority (customer advances).

Southwestern Power Administration
Outyear Funding

Net BA ($K)

	FY 2023 Request	FY 2024	FY 2025	FY 2026	FY 2027
Operation and Maintenance	10,608	10,608	10,608	10,608	10,608

Outyear Priorities and Assumptions
In the FY 2012 Consolidated Appropriations Act (P.L. 112-74), Congress directed the Department to include a future-years energy program (FYEP) in subsequent requests that reflects the proposed appropriations for five years. This FYEP shows outyear funding for each account for FY 2024 - FY 2027. The outyear funding levels use the growth rates from and match the outyear account totals published in the FY 2023 President's Budget for both the 050 and non-050 accounts. Actual future budget request levels will be determined as part of the annual budget process.

SWPA priorities in the outyears include the following:
Outyear funding levels for Southwestern's Operation and Maintenance net appropriation total $42,432,000 for FY 2024 through FY 2027.

- Priority is placed on maintenance, upgrades, physical and cybersecurity, compliance, and cost containment.
- Replacement of Southwestern's transmission line structures many of which are approaching the estimated average service life for the components, to include the related capitalized payroll and travel costs.
- Increase physical security over Southwestern's assets to include the Substation Security Fence Replacement Program and IT's hardware and software upgrades that improve the ability to manage IT assets while driving efficiencies, controlling costs, maintaining compliance and reducing vulnerability.
- Implementation of DOE Order 470.3C Design Basis Threat (DBT) which places greater emphasis on limiting physical security risks at Power Marketing Administrations to include enhanced intrusion detection with surveillance cameras that link to existing Genetec Security system.

Southwestern Power Administration
Funding by Congressional Control ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Operation and Maintenance					
Operations and Maintenance (O&M)	13,292	13,292	15,517	+ 2,225	+ 17%
Construction (CN)	13,267	13,267	16,035	+ 2,768	+ 21%
Purchase Power and Wheeling (PPW)	54,000	54,000	93,000	+ 39,000	+ 72%
Program Direction (PD)	35,635	35,635	38,250	+ 2,615	+ 7%
Subtotal, Operation and Maintenance	116,194	116,194	162,802	+ 46,608	+ 40%
Offsetting Collections, O&M	- 5,657	- 5,657	- 7,998	- 2,341	- 41%
Offsetting Collections, PD	- 31,483	- 31,483	- 34,882	- 3,399	- 11%
Offsetting Collections, PPW	- 34,000	- 34,000	- 70,000	- 36,000	- 106%
Alternative Financing, O&M	- 5,635	- 5,635	- 5,279	- 356	- 6%
Alternative Financing, CN	- 8,167	- 8,167	- 11,035	- 2,868	- 35%
Alternative Financing, PD	-852	- 852	0	- 852	- 100%
Alternative Financing, PPW	- 20,000	- 20,000	- 23,000	- 3,000	- 15%
Net Budget Authority, Operation and Maintenance	10,400	10,400	10,608	+ 208	+ 2%
Federal FTEs	194	194	194	0	0%

Operation and Maintenance
Explanation of Major Changes ($K)

	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Operations and Maintenance: The increase reflects a renegotiation of the contract for an Archeological Survey of the transmission lines; increased IT costs including non-voice telecommunications for the field, service agreements, hardware replacements and maintenance, and support services costs previously classified Program Direction; a decrease in scheduled improvements at the Springfield, Missouri Operations Center (server room, HVAC); and increases in various services contracts.	**+ 2,225**
Construction: The increase in the construction subprogram reflects the Reconductor Dardanelle Dam-steel structure (line 3001C, west side, phase 2.	**+ 2,768**
Purchase Power and Wheeling: The request reflects the anticipated needs based on projected market prices and severe drought hydrologic conditions. It is important for Southwestern to maintain Purchase Power and Wheeling (PPW) funding authority at a level that allows for timely response to severe drought conditions that can develop rapidly (in a matter of months) in Southwestern's region. Access to funding via spending authority from offsetting collections and utilizing alternative financing provides Southwestern PPW funding options to best plan for and respond to varied hydrologic conditions, such as periods of drought or low water conditions, as well as operational impacts, such as hydropower unit outages for major rehabilitation. This increase reflects anticipated needs for periods of drought or low water conditions.	**+ 39,000**
Program Direction: The increase in the program direction subprogram reflects aggressive recruiting to fill several technical hard to fill positions, back-filling retirees, cost of living increases for craft workers and power system dispatchers, and filling succession planning positions for knowledge transfer. Also, increase in support services for projected contractual cost of living adjustments.	**+ 2,615**
Total, Southwestern, Operation and Maintenance	**+ 46,608**

Operations and Maintenance
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)
Operations and Maintenance (O&M)				
Power Marketing	200	200	200	0
Operations	8,178	8,178	8,413	+ 235
Maintenance	3,550	3,550	4,825	+ 1,275
Capitalized Moveable Equipment	1,364	1,364	2,079	+ 715
Subtotal, Operations and Maintenance	**13,292**	**13,292**	**15,517**	**+ 2,225**
Offsetting Collections (annual expenses)	- 5,657	- 5,657	- 7,998	- 2,341
Alternative Financing	- 5,635	- 5,635	- 5,279	+ 356
Total, Operations and Maintenance	**2,000**	**2,000**	**2,240**	**+ 240**

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) and the DOE and Administration's policies emphasize its significant contribution to the Nation's past, current, and future energy supply; and identify Southwestern's important role in meeting electricity demand by supplying hydroelectric energy to its customers. These laws and policies emphasize the need to repair, maintain, and improve transmission and generation facilities to ensure safety, security, resilience and reliability of the Nation's energy infrastructure. SWPA continuously assesses changing climate forecast data to improve climate resilience, including efforts to support the value and stability of the SWPA Federal hydropower products and to ensure response and recovery from climate and extreme weather events. SWPA is participating in the DOE Climate Adaptation and Resilience Plan implementation, and as part of that effort SWPA is in the process of conducting a Vulnerability Assessment and Resilience Plan.

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 resilience and 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. Studies to identify any constraints on Southwestern's system will continue to be conducted. These studies show how the marketing and delivery of power is operationally impacted. The funding level for this activity is derived from Southwestern's engineering plan, negotiated architect/engineering contracts, and the number of studies required per year.

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 upgrades that enable Southwestern to meet the goals of the EPACT and NERC by replacing aging infrastructure while assuring reliability and continuing to coordinate with the RTOs in its marketing area.

Southwestern will continue to strengthen cyber and physical security postures using strong and proven technologies that are part of the Continuous Diagnostics and mitigation (CDM) program. In addition to CDM, Southwestern continues to look for other technologies that can be leveraged to ensure compliance with applicable laws and standards to protect the Federal transmission system and the Nation's power grid.

Environmental, Safety, and Health

This subactivity funds environmental activities including waste disposal and clean-up of transformers, grounding and drainage, cultural resource reviews, and environmental assessments for threatened and endangered species such as the American Burying Beetle, various endangered bats, the Leopard Darter, and Interior Least Tern. Additionally, Southwestern may have environmental activities it performs as a Consulting Agency or participating agency resulting from a Biological Opinion or Biological Assessment, or as a participant on an interagency committee or working group. 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 equipment and supplies.

Other Transmission

This subactivity funds physical security, field utility costs, and day-to-day power expenses of the dispatch center and the Alternate Control 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. Internal and external factors that impact SWPA's maintenance activities and the asset replacement plan include obsolescence of technology and unavailability of replacement parts. By replacing aging equipment and removing constraints that impede power flows, Southwestern ensures the provision of a reliable Federal transmission system. 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.

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 for the number of structures and components to be replaced and the miles of ROW to be cleared as set forth by Southwestern's maintenance plan for meeting the goals of the EPACT 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

Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Operations and Maintenance $13,292,000	**$15,517,000**	**+ $2,225,000**
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.	• Funding request remains the same.
Operations $8,178,000	**$8,413,000**	**+$235,000**
Communications ($5,408,000) • This subactivity funds telemetering improvements, technical support to protect cyber infrastructure, SCADA/EMS system maintenance, load forecasting, and digital testing equipment.	*Communications ($4,903,000)* • This subactivity funds telemetering improvements, technical support to protect cyber infrastructure, SCADA/EMS system maintenance, load forecasting, and digital testing equipment.	*Communications (- $505,000)* • The decrease reflects completion of the Springfield Operations building improvements and server upgrade in support of a more robust cyber security network.
Environmental, Safety, and Health ($2,050,000) • The subactivity funds environmental, safety, and health services.	*Environmental, Safety, and Health ($2,421,000)* • The subactivity funds environmental, safety, and health services.	*Environmental, Safety, and Health (+ $371,000)* • The increase reflects a renegotiation of the cultural resources archeological survey on Southwestern's transmission lines.
Other Transmission ($720,000) • The subactivity funds physical security, field utility costs, and day to day expenses of the dispatch center.	*Other Transmission ($1,089,000)* • The subactivity funds physical security, field utility costs, and day to day expenses of the dispatch center.	*Other Transmission (+ $369,000)* • The increase reflects an increase in planned security enhancements.

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Maintenance $3,550,000	**$ 4, 825,000**	**+ $1,275,000**
Substation ($2,001,000) • This subactivity funds all equipment, parts, and materials for the operation of high voltage substations.	*Substation ($2,842,000)* • This subactivity funds all equipment, parts, and materials for the operation of high voltage substations.	*Substation (+ $841,000)* • The increase reflects substation grounding and drainage improvements.
Transmission Line Maintenance ($1,549,000) • This subactivity funds all equipment, parts, and materials for the operation of the high voltage transmission system. Also, vegetation management contracts.	*Transmission Line Maintenance ($1,983,000)* • This subactivity funds all equipment, parts, and materials for the operation of the high voltage transmission system. Also, vegetation management contracts.	*Transmission Line Maintenance (+ $434,000)* • The increase reflects an increase in line miles scheduled.
Capitalized Moveable Equipment $1,364,000	**$2,079,000**	**+ $715,000**
• This activity funds the replacement of vehicles, tractor-trailers, and heavy equipment used for the maintenance and repair of the transmission system and facilities.	• This activity funds the replacement of vehicles, tractor-trailers, and heavy equipment used for the maintenance and repair of the transmission system and facilities.	• The increase reflects the estimated replacement cost of the heavy equipment and utility trucks being purchased.

Construction
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)
Construction				
Transmission System				
Substation Upgrades	0	0	567	+ 567
Communication Upgrades	2,980	2,980	4,122	+ 1,142
Transmission Upgrades	10,287	10,287	11,346	+ 1,059
Subtotal, Construction	**13,267**	**13,267**	**16,035**	**+ 2,768**
Alternative Financing	- 8,167	- 8,167	- 11,035	- 2,868
Total, Construction	**5,100**	**5,100**	**5,000**	**-100**

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 necessary to maintain the resilience and reliability of the Federal power system. SWPA supports climate resilience through improved response and recovery controls aimed to reduce the impact of various potential natural disaster risks to the transmission system.

Transmission System

This activity funds current construction projects that require expansion of, or additions to, existing facilities. Southwestern ensures system reliability and resiliency 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, obsolescence of technology and unavailability of spare parts, 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. The equipment which will be replaced or upgraded includes power transformers, circuit breakers, and control equipment, as well as the structural components necessary to sustain reliable power delivery and support a stable, flexible interconnected power grid.

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 original assumed 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. As Southwestern replaces the conductor, Southwestern will use the opportunity to increase line capacity where practical to accommodate increased loads in the region.

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 100 percent of the tower installation project and anticipates completing antenna and radio installation and obtaining comparable capability by December 31, 2023. 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.

Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Construction $13,267,000	**$16,035,000**	**+ $2,768,000**
Transmission System $13,267,000	**$16,035,000**	**+ $2,768,000**
Substation Upgrades ($0) • No planned transformer replacements in FY 2021.	*Substation Upgrades ($567,000)* • No planned upgrades in FY 2023, funding for security fence replacement.	*Substation Upgrades (+ $567,000)* • The increase reflects the security fence replacement.
Communication Upgrades ($2,980,000) • This subactivity funds all communication equipment additions and upgrades. Projects include microwave equipment, fiber terminal equipment upgrades, and microwave tower at Tulsa Headquarters.	*Communication Upgrades ($4,122,000)* • This subactivity funds all communication equipment additions and upgrades. Projects include microwave equipment, fiber terminal equipment upgrades, and microwave tower replacement at Bull Shoals.	*Communication Upgrades (+ $1,142,000)* • The increase reflects cost of replacing Bull Shoals tower.
Transmission Upgrades ($10,287,000) • Rebuild structures from Clarksville to Structure 87TC, 15.15 miles and Reconductor Dardanelle Dam to structure 39, Line 3001C, phase one (west side), 8.66 miles.	*Transmission Upgrades ($11,346,000)* • Reconductor Dardanelle Dam-steel structure (line 3001C), west side, phase 2, 14.95 miles and Purchase materials for Rebuild Tupelo-Allen (line 3101), phase 2, 4.89 miles.	*Transmission Upgrades (+ $1,059,000)* • The increase in the transmission upgrades reflects the additional materials needed for the increase in line miles to be rebuilt.

Purchase Power and Wheeling
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)
Purchase Power and Wheeling				
System Support	50,500	50,500	89,500	+ 39,000
Other Contractual Services	3,500	3,500	3,500	0
Subtotal, Purchase Power and Wheeling	**54,000**	**54,000**	**93,000**	**+ 39,000**
Offsetting Collections (PPW)	- 34,000	- 34,000	- 70,000	- 36,000
Alternative Financing	- 20,000	- 20,000	- 23,000	- 3,000
Total, Purchase Power and Wheeling	**0**	**0**	**0**	**0**

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. Except for contractual arrangements pertaining to a few electrically-isolated hydropower projects, Southwestern's power sales contracts provide for 1200-hours of peaking power per year delivered from its interconnected system of hydropower projects. At times, due to below average water conditions or hydropower unit outages, Southwestern must purchase power when the hydropower projects cannot produce enough to fulfill its 1200-hour contract obligations. Blending purchased power with the Federal hydropower provides a reliable product while ensuring contract fulfillment occurs. Extreme regional weather events in recent years have demonstrated increased price volatility for potential replacement energy purchases. Availability of requested PPW funding levels supports rate stability. Rate stability is increasingly important as regional utility customers make decisions regarding Federal hydropower and other clean energy resources as part of their evolving energy portfolios.

Southwestern assesses its purchase power needs based on hydrologic conditions and anticipated hydropower unit outages. Hydrologic conditions can vary widely and change rapidly, such that purchase power needs are assessed at least seasonally and can change daily. Unit outages for major rehab and replacement work are known years in advance so that purchase power needs can be planned; however, forced outages or delays in units returning to service can cause sudden changes to anticipated purchase power needs. Power purchases are typically made through contractual arrangements but may also be made on the spot market when conditions are more severe than anticipated or otherwise unexpected. Delivery of purchase power to Southwestern's system is made via the SPP RTO or Southwestern's own transmission system.

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. Today, requirements associated with utilizing the Continuing Fund for PPW needs could spike power rates for customers and limits the usefulness of this tool for replacement energy needs. In FY 2001, Southwestern requested, and Congress enacted, authority to use Federal power receipts that recover purchase power and wheeling expenses (offsetting collections) to fund its PPW program (up to a specified limit). However, since FY 2018, the enacted levels have been significantly below the requested levels. The use of requested offsetting collections will be largely dependent upon the hydrological conditions realized during the fiscal year. Under average conditions, less than half of the limit requested will be collected and used.

Southwestern's budget request for the PPW subprogram reflects the maximum anticipated need to ensure adequate funding to fulfill its 1,200-hour peaking power contractual obligations considering volatile market prices, unknown forced generation outages, and all but the most severe hydrological conditions. Southwestern will continue to use offsetting collections and alternative financing arrangements, which include net billing 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.

Southwestern employs a risk mitigation strategy to ensure continuous operations during periods of significant drought. The strategy involves maintaining an unobligated reserve balance of funds from receipts credited as offsetting collection for PPW, in order to respond to rapid-developing severe drought conditions. Any receipts retained are available until expended and are available only for PPW expenses. As of the end of FY 2021, Southwestern's PPW reserve balance was $86 million. Customers will provide other power resources and/or purchases for the remainder of their firm loads.

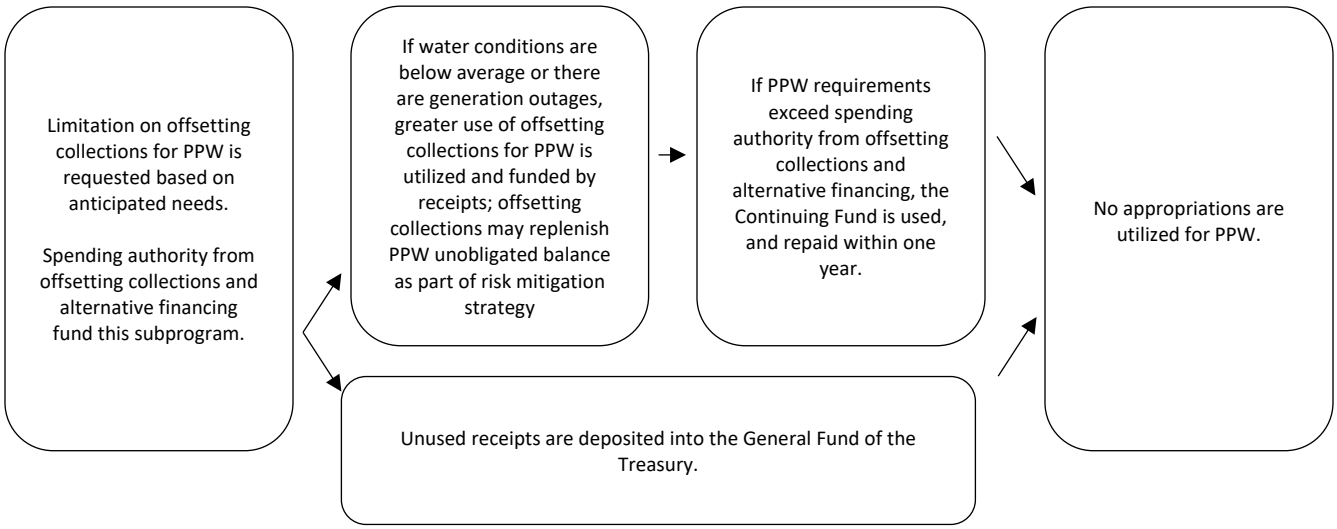
The activities of the PPW subprogram provide for the purchase of power that helps fulfill limited peaking power contractual obligations, thereby ensuring the marketability of the Federal hydropower resource and repayment of the Federal investment. This subprogram also provides for wheeling services that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

System Support

This activity funds Southwestern's purchase power requirements needed to fulfill all 1200-hour contractual peaking power obligations with customers. System support requirements depend on the conditions of the interconnected system of hydropower projects which is affected by weather, unit operational condition, power market prices (which can be volatile), and limited availability of energy banks. Since the rates Southwestern charges its customers are based on full cost recovery, Southwestern has a built-in incentive to minimize expenditures for purchase power.

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 2023 funding request reflects the projected cost for wheeling services based on contractual pricing and delivery terms.



Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Purchase Power and Wheeling $54,000,000	**$ 93,000,000**	**+ $39,000,000**
System Support ($50,500,000)	*($89,500,000)*	*(+ $39,000,000)*
• 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 overall increase in system support reflects maximum anticipated needs based on projected market prices and severe drought hydrologic conditions. Droughts in Southwestern's region can develop in a matter of months, such that adequate PPW funding must be available for proactive planning and rapid response.
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 request remains the same.

Program Direction
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)
Southwestern Power Administration				
Salaries and Benefits	25,238	25,238	28,528	+ 3,290
Travel	1,710	1,710	1,654	- 56
Support Services	4,037	4,037	4,387	+ 350
Other Related Expenses	4,650	4,650	3,681	- 969
Subtotal, Southwestern Power Administration	**35,635**	**35,635**	**38,250**	**+ 2,615**
Offsetting Collections (annual expenses)	-31,483	-31,483	- 34,882	- 3,399
Alternative Financing	-852	-852	0	+ 852
Total, Program Direction	**3,300**	**3,300**	**3,368**	**+ 66**
Federal FTEs	194	194	194	0
Support Services				
Management Support				
Engineering and Technical Services	2,624	2,624	0	- 2,624
Technical Support				
Management and Professional Support Services	1,413	1,413	4,387	+ 2,974
Total Support Services	4,037	4,037	4,387	+ 350
Total, Support Services	**4,037**	**4,037**	**4,387**	**+ 350**
Other Related Expenses				
Rent to Others	852	852	0	- 852
Communication, Utilities, Misc.	937	937	882	- 55
EITS	36	36	50	+ 14
Printing and Reproduction	76	76	45	- 31
Other Services	719	719	766	+ 47
Training	190	190	197	+ 7
Power Marketing Liaison	140	140	104	- 36
Financial Audit	430	430	450	+ 20
Supplies and Materials	170	170	150	- 20

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)
Equipment	450	450	473	+ 23
Working Capital Fund	650	650	564	- 86
Total, Other Related Expenses	**4,650**	**4,650**	**3,681**	**- 969**

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; those that perform cyber and physical security roles; 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, cyber and physical security specialists, power system dispatchers, high voltage electricians, and linemen. 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 NERC and FISMA standards.

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.

Program Direction is mainly funded from offsetting collections. Other funding utilized for Program Direction is appropriations and if necessary alternative financing arrangements.

Program Direction

Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Program Direction $35,635,000	**$38,250,000**	**+ $2,615,000**
Salaries and Benefits ($25,328,000)	*($28,528,000)*	*(+ $3,290,000)*

Program Direction

Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
• The FY 2022 level supports 194 Federal employees: 54 percent of the employees are GS; 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 2021, approximately 27 percent of Southwestern's staff will be eligible for optional retirement. Southwestern will continue to invest in its employees, emphasizing strong development programs, completing skills gap analyses, and pursuing aggressive recruitment and retention efforts.	• The FY 2023 level supports 194 Federal employees: 54 percent of the employees are GS; 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 2023, approximately 25 percent of Southwestern's staff will be eligible for optional retirement. Southwestern will continue to invest in its employees, emphasizing strong development programs, completing skills gap analyses, and pursuing aggressive recruitment and retention efforts.	• The increase in Salaries and Benefits reflects aggressive recruiting to fill several technical hard to fill positions, back-filling retirees, and filling succession planning positions for knowledge transfer.
Travel ($1,710,000)	*($1,654,000)*	*(- $56,000)*
• This activity funds all related travel and per diem expenses for mission-related travel to maintain the integrity and reliability of Southwestern's geographically dispersed power system. The funding level for this activity is primarily derived from the daily requirement of the field maintenance personnel to maintain 1,381 miles of transmission lines, 26 substations/switchyards, 51 microwave/radio sites, communication equipment, and the Supervisory Control and Data Acquisition network. Travel for the performance of general and administrative functions is also included.	• This activity funds all related travel and per diem expenses for mission-related travel to maintain the integrity and reliability of Southwestern's geographically dispersed power system. The funding level for this activity is primarily derived from the daily requirement of the field maintenance personnel to maintain 1,381 miles of transmission lines, 26 substations/switchyards, 51 microwave/radio sites, communication equipment, and the Supervisory Control and Data Acquisition network. Travel for the performance of general and administrative functions is also included.	• The decrease in travel reflects estimated transmission policy related efforts, water resource activities, and field maintenance crew travel.

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Support Services ($4,037,000)	*($4,387,000)*	*(+ $350,000)*
• 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.	• Increase reflects new contract costs for headquarters support services.
Other Related Expenses ($4,650,000)	*($3,681,000)*	*(- $969,000)*
• This activity funds rental space, facility security, the financial audit, services of the Power Marketing Liaison Office, the Human Resources Shared Service Center (HRSSC), 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 facility security, the financial audit, services of the Power Marketing Liaison Office, the Human Resources Shared Service Center (HRSSC), 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. Costs are based on the historical usage and actual cost of similar items.	• Decrease reflects the reduction in rent at the Tulsa Headquarters Facility and related costs. Although the move to Southwestern's new HQ facility has been delayed, costs associated with continued rent will be covered through available prior year alternative financing.

Southwestern Power Administration
Revenues and Receipts
Funding ($K)

	FY 2021 Actual	FY 2022 Estimate	FY 2023 Estimate	FY 2024 Estimate	FY 2025 Estimate	FY 2026 Estimate	FY 2027 Estimate
Gross Revenues							
Sale and Transmission of Electric Energy	222,274	198,610	198,610	198,610	198,610	198,610	198,610
Alternative Financing Credited as an Offsetting Receipt (O&M, CN, PD, PPW), Net Billing	-24,496	-38,492	-39,314	-39,555	-37,126	-38,913	-38,900
Alternative Financing Credited as an Offsetting Receipt (Section 212), Net Billing[3]	- 41,989	-45,611	-39,909	-43,068	-44,797	-43,010	-43,010
Offsetting Collections, Annual Expenses (Net Zero)	-37,140	-37,924	-42,880	-39,440	-40,098	-40,098	-40,098
Offsetting Collections, Purchase Power and Wheeling ('up to' ceiling)[4]	-34,000	-39,000	-70,000	-70,000	-70,000	-70,000	-70,000
Total Proprietary Receipts	84,649	37,583	6,507	6,547	6,589	6,589	6,602
Percent of Sales to Preference Customers	100%	100%	100%	100%	100%	100%	100%
Energy Sales from Power Marketed (billions of kilowatt hours)	6.5	5.2	5.2	5.2	5.4	5.4	5.4

[3] Actual Alternative Financing in estimated years may be more than estimated to provide funding to the WRDA 2000 Section 212 Customer Funding Program, as authorized, dependent upon available receipts based on actual revenues from the sale and transmission of electric energy and utilization of PPW offsetting collections and/or Alternative Financing for PPW in each FY.

[4] FY 2021 amount enacted for the limit on PPW offsetting collections was $34 million. For FY 2022 through FY 2027, the estimated amount of offsetting collections for PPW is equivalent to the "up to" amount enacted (FY 2022), requested (FY 2023), or anticipated to be requested (FY 2024-2027) in the budget. The PPW offsetting collections limit requested (when matched with PPW receipts), along with alternative financing used for PPW, could potentially fund a drought for one year or replenish unobligated balances after a drought has occurred. This will also allow funding to be collected in case the drought persists for more than a year.

Southwestern Power Administration
Estimate of Offsetting Collections for Reimbursable Work and Work for Others[5]

	Funding ($K)		
	FY 2021	FY 2022	FY 2023
Offsetting Collections for Reimbursable Work [6]			
Alternative Financing			
Operations and Maintenance	5,635	4,591	5,279
Construction	8,167	10,901	11,035
Purchase Power and Wheeling (PPW)	20,000	23,000	23,000
Program Direction	852	0	0
Subtotal, Alternative Financing	34,654	38,492	39,314
Offsetting Collections not anticipated for obligation in budget year	0	0	0
Subtotal, Offsetting Collections for Reimbursable Work	**34,654**	**38,492**	**39,314**
Offsetting Collections for Reimbursable Work-for-Others [7]	**11,346**	**12,508**	**12,686**
Total, Offsetting Collections for Reimbursable	**46,000**	**51,000**	**52,000**

[5]Southwestern received permanent non-Federal reimbursable authority pursuant to 16 USC 825s-4. Table is shown for transparency purposes.

[6]Southwestern relies significantly on alternative financing arrangements with customers to finance much of its direct mission work on a reimbursable basis.

[7] Southwestern utilizes various forms of Federal and non-Federal reimbursable agreements. Work-for-Others agreements include interconnection requests, system upgrades for reliability, relocation of structures for State and Federal highways and work for other Federal agencies.

Southwestern Power Administration
System Statistics

	FY 2021 Actual	FY 2022 Estimate	FY 2023 Estimate	FY 2024 Estimate	FY 2025 Estimate	FY 2026 Estimate	FY 2027 Estimate
Generating Capacity (kilowatts)							
Installed Capacity	2,213,500	2,213,500	2,242,500	2,242,500	2,242,500	2,242,500	2,242,500
Marketed Capacity	2,058,300	2,058,500	2,058,500	2,058,500	2,058,500	2,058,500	2,058,500
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[8] (Megawatt-hours)							
Energy Generated	6,343,219	4,897,600	4,910,400	4,939,000	5,160,900	5,160,900	5,160,900
Energy Received	149,917	320,700	314,800	309,400	252,300	252,300	252,300
Total, Energy Available for Marketing	6,493,136	5,218,300	5,225,200	5,248,400	5,413,200	5,413,200	5,413,200
Transmission Lines (Circuit-Miles)							
161-KV	1,118	1,118	1,118	1,118	1,118	1,118	1,118
138-KV	164	164	164	164	164	164	164
69-KV	99	99	99	99	99	99	99
Total, Transmission Lines	1,381	1,381	1,381	1,381	1,381	1,381	1,381

[8] Available Energy: actual available energy data is net of losses and other non-marketed energy; estimated data comes from Southwestern's 2021 power repayment studies.

Power Marketed, Wheeled, or Exchanged by Project

State	Number of Plants	Installed Capacity (kW)	Marketed Capacity (kW)	FY 2021 Actual Energy (GWh)	FY 2022 Estimated Energy (GWh)	FY 2023 Estimated Energy (GWh	FY 2024 Estimated Energy (GWh)	FY 2025 Estimated Energy (GWh)	FY 2026 Estimated Energy (GWh)	FY 2027 Estimated Energy (GWh)
Power Marketed										
Integrated System:										
Missouri	4	470,000	688,245	2,178	1,744	1,747	1,755	1,811	1,811	1,811
Arkansas	9	1,058,050	378,008	1,196	958	959	964	995	995	995
Oklahoma	7	514,100	415,185	1,314	1,052	1,054	1,059	1,093	1,093	1,093
Texas	2	112,000	218,386	691	553	554	557	575	575	575
Louisiana	0	0	143,150	453	363	363	365	377	377	377
Kansas	0	0	156,214	494	396	396	398	411	411	411
Subtotals	22	2,154,150	1,999,188	6,327	5,067	5,074	5,097	5,262	5,262	5,262
Isolated: (Sam Rayburn and Robert D. Willis Projects)										
Texas	2	59,350	29,675	154	76	76	76	76	76	76
Louisiana	0	0	29,675	12	76	76	76	76	76	76
Subtotals	2	59,350	59,350	166	152	152	152	152	152	152
Total, Power Marketed[9]	24	2,213,500	2,058,338	6,493	5,218	5,225	5,248	5,413	5,413	5,413
Power Wheeled (MW)				536	523	519	522	526	526	526

[9] Total, Power Marketed: actual energy data is the energy delivered and therefore net of losses and other non-marketed energy; estimated data comes from Southwestern's 2021 power repayment studies.

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, $299,573,000, including official reception and representation expenses in an amount not to exceed $1,500, to remain available until expended, of which $299,573,000 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 $200,841,000 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 2023 appropriation estimated at not more than $98,732,000 of which $98,732,000 is derived from the Reclamation Fund: Provided further, That notwithstanding 31 U.S.C. 3302, up to $350,083,000 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).

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, $6,330,000, 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 $6,102,000 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 2023 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 2023, the Administrator of the Western Area Power Administration may accept up to $1,598,000 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.

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
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request
Gross	1,108,393	1,108,393	1,314,146
Offsets	-1,040,193	-1,040,193	-1,223,754
Net BA	**68,200**	**68,200**	**90,392**

Bipartisan Infrastructure Legislation (BIL) Appropriation
($K)

FY 2022 BIL Appropriation	FY 2023 BIL Appropriation
499,500	**0**

Overview

Western Area Power Administration (WAPA) continues to support the Department of Energy (DOE) priorities for a resilient, reliable and secure North American electricity system.

WAPA's 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 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 more than two dozen military installations, DOE National labs, 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, including many disadvantaged and energy communities.

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.

In FY 2023, WAPA's request has been formulated to meet its power marketing and contractual power delivery obligations with continued high marks for reliability. The request prioritizes grid modernization through data-driven investment decisions designed to improve resiliency and reliability of WAPA's transmission system.

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

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Construction, Rehabilitation, Operation and Maintenance (CROM)					
Operation and Maintenance	77,874	77,874	85,229	+7,355	+9%
Construction and Rehabilitation	26,251	26,251	47,189	+20,938	+80%
Purchase Power and Wheeling	485,890	485,890	625,405	+139,515	+29%
Program Direction	253,575	253,575	277,287	+23,712	+9%
Subtotal, CROM Program	**843,590**	**843,590**	**1,035,110**	**+191,520**	**+23%**
Alternative Financing					
Operation and Maintenance	-6,297	-6,297	-7,641	-1,344	+21%
Construction and Rehabilitation	-20,353	-20,353	-38,219	-17,866	+88%
Purchase Power and Wheeling	-293,890	-293,890	-275,322	18,568	-6%
Program Direction	-48,546	-48,546	-54,868	-6,322	+13%
Subtotal, Alternative Financing	**-369,086**	**-369,086**	**-376,050**	**-6,964**	**+2%**
Offsetting Collections from Colorado River Dam Fund					
Operation and Maintenance	-1,868	-1,868	-1,449	+419	-22%
Program Direction	-6,510	-6,510	-7,955	-1,445	+22%
Subtotal, Offsetting Collections from Colorado River Dam Fund	**-8,378**	**-8,378**	**-9,404**	**-1,026**	**+12%**
Offsetting Collections, annual Operation and Maintenance and Program Direction					
Operation and Maintenance	-24,744	-24,744	-29,180	-4,436	+18%
Program Direction	-145,010	-145,010	-171,661	-26,651	+18%
Subtotal, Offsetting Collections, annual Operation and Maintenance and Program Direction	**-169,754**	**-169,754**	**-200,841**	**-31,087**	**+18%**
Offsetting Collections, Purchase Power and Wheeling	-192,000	-192,000	-350,083	-158,083	+82%
Use of Prior Year Balances					
Annual Operation and Maintenance	-2,200	-2,200	0	+2,200	-100%
Annual Program Direction	-12,800	-12,800	0	+12,800	-100%
Subtotal, Use of Prior Year Balances	**-15,000**	**-15,000**	**0**	**+15,000**	**-100%**
Subtotal, CROM	**89,372**	**89,372**	**98,732**	**+9,360**	**+10%**
Rescission of Prior Year Balances	0	0	0	0	0%

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Total, CROM	**89,372**	**89,372**	**98,732**	**+9,360**	**+10%**
Federal FTEs	**1,216**	**1,216**	**1,201**	**-15**	**-1%**
Falcon and Amistad Operating and Maintenance Fund	7,302	7,302	7,928	+626	+9%
Offsetting Collections, annual Operation and Maintenance	-5,548	-5,548	-6,102	-554	+10%
Use of Prior Year Balances	0	0	0	0	0%
Alternative Financing	-1,526	-1,526	-1,598	-72	+5%
Total, Falcon and Amistad	**228**	**228**	**228**	**0**	**0%**
Federal FTEs	**0**	**0**	**0**	**0**	**0%**
Colorado River Basins Power Marketing Fund (CRBPMF)	245,047	245,047	258,466	+13,419	+5%
Offsetting Collections	-266,447	-266,447	-267,034	-587	0%
Total, CRBPMF	**-21,400**	**-21,400**	**-8,568**	**+12,832**	**-60%**
Federal FTEs	**294**	**294**	**308**	**+14**	**+5%**
Transmission Infrastructure Program Fund (TIP)	12,454	12,454	12,642	+188	+2%
Advance Funding	-2,025	-2,025	-1,750	+275	-14%
Offsetting Collections	-10,429	-10,429	-10,892	-463	+4%
Total TIP	**0**	**0**	**0**	**0**	**0%**
Federal FTEs	**11**	**11**	**12**	**+1**	**+9%**
Total, Western Area Power Administration	**68,200**	**68,200**	**90,392**	**+22,192**	**+33%**
Federal FTEs	**1,521**	**1,521**	**1,521**	**0**	**0%**

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

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request
Gross	843,590	843,590	1,035,110
Offsets	-754,218	-754,218	-936,378
Subtotal	**89,372**	**89,372**	**98,732**
Rescission of prior year balances	0	0	0
Net BA	**89,372**	**89,372**	**98,732**

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

WAPA's subprograms are funded using a variety of financing methods including appropriations, alternative financing (primarily customer advances), and use of receipt authorities.

In FY 2023, WAPA's request has been formulated to meet its power marketing and contractual power delivery obligations with continued high marks for reliability. The request prioritizes grid modernization through data-driven investment decisions designed to improve resiliency and reliability of WAPA's transmission system.

Outyear Funding
($K)

	FY 2023 Request	FY 2024	FY 2025	FY 2026	FY 2027
CROM Net BA	**98,732**	**101,200**	**103,224**	**106,324**	**108,982**

Major Outyear Priorities and Assumptions
Outyear funding levels for WAPA CROM total $419,730,000 for FY 2024 through FY 2027. The CROM appropriation priorities include:

- Operation and maintenance requirements for reliable and resilient transmission system
- Capital investments in grid modernization and safeguards
- Purchase power and wheeling to meet contractual power delivery obligations

Operation and Maintenance
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Operation and Maintenance					
Regular Operation and Maintenance	35,586	35,586	38,490	+2,904	+8%
Replacements and Additions	42,288	42,288	46,739	+4,451	+11%
Total, Operation and Maintenance	**77,874**	**77,874**	**85,229**	+7,355	**+9%**
Alternative Financing	-6,297	-6,297	-7,641	-1,344	+21%
Use of Receipts from Colorado River Dam Fund	-1,868	-1,868	-1,449	+419	-22%
Offsetting Collections	-24,744	-24,744	-29,180	-4,436	+18%
Use of Prior Year Balances	-2,200	-2,200	0	+2,200	-100%
Total, Operation and Maintenance (Budget Authority)	**42,765**	**42,765**	**46,959**	**+4,194**	**+10%**

Construction, Rehabilitation, Operation and Maintenance
Operation and Maintenance

Description
The Operation and Maintenance (O&M) subprogram provides the supplies, materials and equipment necessary for WAPA to continue to deliver on its mission of providing reliable, resilient domestic energy to 40 million Americans across its 15-state footprint.

Regular Operation and Maintenance
Supplies and materials necessary to respond to routine and emergency situations across WAPA's 17,000 miles of 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. Additionally, cyber and physical security audits and monitoring as well as grid operations and monitoring are provided through this activity, which is funded primarily through offsetting collections and alternative customer financing.

Replacements and Additions
WAPA's planned replacements and additions activity is based on cyber and physical security audits, assessments of condition and criticality of equipment, maintenance and 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 and 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.

Cyber and Physical Security
Investments in the hardening of the transmission grid against increasing foreign and domestic threats include firewalls, cybersecurity upgrades, encryptors for operations offices, security equipment such as perimeter intrusion detection devices, card readers and associated software, security cameras and recording devices at various sites throughout WAPA's service area. These investments in cyber, physical security, and grid technology improvements rely primarily on appropriated funds.

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 aging wood transmission line structures, line hardware, and repair damaged conductors and static wires. Many of WAPA's wood transmission line structures were built in the 1950's and 1960's, with the facilities reaching ages in excess of recommended lifespan. 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 aged or obsolete remote terminal units (RTU), telephone systems, microwave and mobile 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 is being replaced with new digital mobile radio technology equipment now and will continue for the next several years.

WAPA's communication systems are currently comprised of approximately 20 percent fiber optics, 70 percent fixed radio, and 10 percent mobile radio. WAPA currently has 1,193 radio frequency authorizations in the fixed radio bands, all of which are digital. This funding will not be used to replace equipment impacted by the Spectrum Relocation initiative.

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 FY 2007 and system relocation efforts commenced. WAPA received $108.2 million for this effort. This amount included 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 all design work including radio path analysis, tower load analysis, communication building upgrades and replacements, acquiring radio frequency authorizations, and all communication equipment purchases. Final communication equipment installation has been completed. Due to complications during system transition, system clean-up activities and acceptance testing will now be completed by FY 2023. WAPA anticipates returning approximately $16 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 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 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, map board replacement, information technology equipment such as server and router replacements, LAN upgrades, network equipment replacements, storage upgrades, upgrades to WAPA's power system simulator equipment for training purposes, auto-CAD workstation replacements, helicopter 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 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Operation and Maintenance		
$77,874,000	**$85,229,000**	**+$7,355,000**
Regular O&M ($35,586,000) 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. 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 $137,000 for appropriated O&M annual expenses that are required to fund WAPA's Salinity and Levee non-reimbursable power systems. The request includes approximately $1,868,000 for activities in the Boulder Canyon Project, funded through receipts from the Colorado River Dam Fund.	*Regular O&M ($38,490,000)* 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. 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 $220,000 for appropriated O&M annual expenses that are required to fund WAPA's Salinity and Levee non-reimbursable power systems. The request includes approximately $1,449,000 for activities in the Boulder Canyon Project, funded through receipts from the Colorado River Dam Fund.	*Regular O&M (+$2,904,000)* Regular O&M increases are largely driven by substation maintenance requirements and inflationary factors.
Replacements and Additions ($42,288,000) 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 ($46,739,000)* 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 (+$4,451,000)* Replacements and Additions increases reflect year to year fluctuations in the equipment replacement cycle and are largely driven by substation and movable equipment replacements.

Construction and Rehabilitation
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Construction and Rehabilitation					
Transmission Lines and Terminal Facilities	13,722	13,722	15,027	+1,305	+10%
Substations	2,727	2,727	22,801	+20,074	+736%
Other	9,802	9,802	9,361	-441	-4%
Subtotal, Construction and Rehabilitation	**26,251**	**26,251**	**47,189**	**+20,938**	+80%
Alternative Financing	-20,353	-20,353	-38,219	-17,866	+88%
Total, Construction and Rehabilitation	**5,898**	**5,898**	**8,970**	**+3,072**	+52%

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 the replacement, upgrade, and modernization of the electrical system infrastructure to bring continued reliability, improved connectivity, and increased resilience, flexibility and capability to the power grid.

Financing of the FY 2023 C&R budget, planned at $47.2 million, will continue to rely heavily on voluntary stakeholder participation in alternative methods for capital financing. Approximately 81 percent of the program funding, or $38.2 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 compliance, system reliability, and economic impact to WAPA and its customers, 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.

Transmission Lines and Terminal Facilities

WAPA's 17,000 circuit-mile transmission infrastructure was primarily constructed in the 1940s through 1960s. Thousands of miles of transmission line already exceed their design life. WAPA continues to focus on replacement and upgrade of deteriorating and inadequate infrastructure across WAPA's service area using alternative financing, with continued emphasis on deteriorating transmission lines with high risk of failure and high consequence of failure as determined through data-driven asset management assessments. This activity funds the construction, replacement, or upgrade of transmission line infrastructure and related components necessary to sustain reliable power delivery and support a stable, flexible interconnected power grid.

Substations

WAPA owns and operates more than 320 substations across its 15-state service territory. Many of these facilities were designed and constructed more than 50 years ago. As substation equipment (such as power transformers, circuit breakers, and control equipment) ages, maintenance costs increase, replacement parts become unavailable, risk of outages increase, and system reliability declines. The normal service life for power transformers and circuit breakers is 40 years and 35 years, respectively. 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.

Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Construction and Rehabilitation **$26,251,000**	**$47,189,000**	**+$20,938,000**
Transmission and Terminal Facilities ($13,722,000) • Continue rehabilitation and construction required on WAPA's transmission lines and terminal facilities to cost-effectively market and deliver clean Federal hydropower and promote a strong record of reliability and safety. • Address additional system reliability risk and operational problems. • Appropriations ($5,898,000) are requested for the following projects in FY 2021: o Parker-Bouse (AZ) construct 15-mile segment of 230-kV double circuit transmission line and upgrade equipment at Bouse substation to improve reliability of service, improve safety, and reduce ongoing maintenance costs • Alternative financing ($7,824,000) sought for the following projects in FY 2021: o Parker-Bouse (AZ) construct 15-mile segment of 230-kV double circuit transmission line and upgrade equipment at Bouse substation to improve reliability of service, improve safety, and reduce ongoing maintenance costs	*Transmission and Terminal Facilities ($15,027,000)* • Continue rehabilitation and construction required on WAPA's transmission lines and terminal facilities to cost-effectively market and deliver clean Federal hydropower and promote a strong record of reliability and safety. • Address additional system reliability risk and operational problems. • Appropriations ($2,220,000) are requested for the following projects in FY 2023: o Trinity-Weaverville-Lewiston (CA) upgrade rights-of-way for existing 17-mile segment of transmission line to reduce the risk of wildfires and increase reliability and safety of the surrounding community • Alternative financing ($12,807,000) sought for the following projects in FY 2023: o Parker-Bouse (AZ) construct 15-mile segment of 230-kV double circuit transmission line and upgrade equipment at Bouse substation to improve reliability of service, improve safety, and reduce ongoing maintenance costs o Bouse-Kofa 161kV (AZ) rebuild of 75.6 miles of 161-kV transmission line to comply with NERC standards, increase reliability and reduce maintenance costs o Parker-Blythe 161-kV #2 Rebuild (AZ/CA) rebuild of 63.9 miles of 161-kV transmission	*Transmission and Terminal Facilities (+$1,305,000)* • The increase in transmission line work reflects the year-to-year fluctuation in the timing of capital investments while maintaining a continued focus on upgrading and replacing aging and inadequate infrastructure to improve reliability and safety and reduce maintenance costs. Projects are individually prioritized within available resource levels which also contributes to year-to-year fluctuations in program levels.

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
	line structure to increase reliability and reduce maintenance costs ○ Blythe-Knob (CA) replacement of failed and deteriorating wood transmission line structures to increase reliability and reduce maintenance costs	
Substations ($2,727,000) • Continue construction, modification, and rehabilitation of WAPA's substations to ensure power system reliability and stability. • Address additional system reliability risk and operational problems. • Appropriations ($0) are not requested for projects in FY 2021 • Alternative financing ($2,727,000) sought for the following projects in FY 2021: ○ Fort Thompson Substation (SD) transformer replacement due to age (50+ years) and high consequence of failure which could result in catastrophic failure, reliability, and customer outages ○ Maurine Substation (SD) aging (manufactured in 1962 and in service for 50+ years) transformer replacement to ensure reliability and mitigate risk of catastrophic failure ○ Sand Creek Tap (CO) installation of 3 breaker ring bus (power circuit breakers and line relays) to sectionalize the Erie-Hoyt-Willoby 115-kV transmission line and to increase reliability and reduce maintenance costs ○ Sioux City 2 Substation (IA) transformer replacement is needed due to deteriorating	*Substations ($22,801,000)* • Continue construction, modification, and rehabilitation of WAPA's substations to ensure power system reliability and stability. • Address additional system reliability risk and operational problems. • Appropriations ($4,100,000) are requested for the following projects in FY 2023: ○ Yellowtail Substation (MT) replacement of entire protection and control system, including control building, to increase reliability • Alternative financing ($18,701,000) is being sought for projects in FY 2023 ○ Eagle Butte Substation (SD) replacement of existing single bus configuration with 115 kV ring bus to increase reliability and simplify maintenance procedures ○ Groton Substation (SD) transformer (40+ years) and control building replacement to reduce the risk of catastrophic failure, and increase reliability and safety ○ Philip Substation (SD) transformer replacement due to age (50+ years) and other asset management factors which could result in catastrophic failure, reliability, and customer outages	*Substations (+$20,074,000)* • The increase in substation work reflects the year-to-year fluctuation in the timing of capital investments while maintaining a continued focus on replacing aging and deteriorating equipment and facilities to provide for system reliability. Projects are individually prioritized within available resource levels which also contributes to year-to-year fluctuations in program levels.

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
conditions creating an environmental hazard and will provide for increased reliability	○ Sand Creek Switching Station (CO) installation of 3 breaker ring bus (power circuit breakers and control panels) to sectionalize the Erie-Hoyt-Willoby 115-kV transmission lines and to increase reliability and safety ○ Stegall Substation (NE) replacement of existing main and transfer bus configuration with breaker and a half arrangement to increase reliability and reduce maintenance requirements	

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Other ($9,802,000) • Appropriations ($0) are not requested for projects in FY 2021 • Alternative financing ($9,802,000) sought for the following projects in FY 2021: o Devils Lake Substation (ND) cold storage building will house critical equipment and materials to enable WAPA to better manage supply levels and be more efficient in maintenance and response to emergencies o Gila Substation (AZ) maintenance building replacement will provide climate-controlled crew meeting and workstation/workshop space, and vehicle/equipment storage to increase efficiency and reduce maintenance costs o Rapid City Substation (SD) maintenance building replacement (40+ years old) will accommodate crew quarters, shop areas, house vehicles, and provide equipment storage and enable WAPA to be more efficient in maintenance and response to emergencies o Substation service upgrades at Tracy substation (CA) to mitigate safety hazards and increase reliability	*Other ($9,361,000)* • Appropriations ($2,650,000) are requested for the following projects in FY 2023: o Mead Substation (NV) roadway improvements to increase accessibility and safety o Mead Substation (NV) domestic water system improvements to increase reliability and safety • Alternative financing ($6,711,000) sought for the following projects in FY 2023: o Cottonwood Substation (CA) control building replacement (age and excessive maintenance requirements) to increase service reliability and reduce maintenance costs o Folsom Substation (CA) station service equipment upgrades to mitigate safety hazards and increase reliability o Rapid City Substation (SD) maintenance building replacement (40+ years old) will accommodate crew quarters, shop areas, house vehicles, and provide equipment storage and enable WAPA to be more efficient in maintenance and response to emergencies o Yuma (AZ) retrofit and equip newly acquired maintenance building critical to supporting aged and deteriorating transmission system infrastructure and increasing reliability for key preference customers	*Other (-$441,000)* • The decrease in other investments reflects the year-to-year fluctuation in the timing of capital investments while maintaining a continued focus on replacing aging and deteriorating equipment and facilities to provide for system reliability. Projects are individually prioritized within available resource levels which also contributes to year-to-year fluctuations in program levels.

Purchase Power and Wheeling
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Purchase Power and Wheeling					
Central Valley	318,235	318,235	298,092	-20,143	-6%
Pick-Sloan Missouri Basin and other Programs	167,655	167,655	327,313	+159,658	+95%
Subtotal, Purchase Power and Wheeling	**485,890**	**485,890**	**625,405**	**+139,515**	**+29%**
Alternative Financing Needed	-293,890	-293,890	-275,322	+18,568	-6%
Offsetting Collections	-192,000	-192,000	-350,083	-158,083	+82%
Total, Purchase Power and Wheeling (New Budget Authority)	**0**	**0**	**0**	**0**	**0%**

Construction, Rehabilitation, Operation & Mainenance
Purchase Power and Wheeling

Description
The Purchase Power and Wheeling (PPW) 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.

For a historical perspective, WAPAs PPW subprogram is highly variable; it is affected by reservoir storage levels, annual and long-term drought conditions, downstream flow concerns due to icing, flooding, environmental, health and safety, recreation, irrigation, and navigation requirements. To illustrate the extent of the variability, WAPA PPW costs in FY 2008, an adverse water year, were nearly $600 million and in FY 2021 costs were nearly $570 million due to a single weather event and market volatility; whereas in FY 2019, a much-improved water year, costs were $351 million. Year-to-year changes can be extensive, and during long-term drought events the increased purchase power requirements can last several years. The FY 2023 budget request reflects anticipated requirements utilizing current information on hydro conditions, generation, contractual commitments, and power pricing. Market prices across WAPA's service territory have dramatically increased over the last year. During the period of October through December 2021, WAPA's total purchased power was 1,481 GWh with an average price of $44.85 per megawatt-hour (MWh), an increase of 60% over the same period in 2020 which was 1,450 GWh purchased for an average price of $26.84 MWh.

WAPA has implemented a PPW risk mitigation strategy to ensure continuous operations during periods of significant drought. The strategy was developed consistent with existing authorities, and with the participation and support of WAPA power customers. Under this approach, WAPA retains receipts from the recovery of purchase power and wheeling expenses within the 'up to' amount specified by Congress. The receipts retained are available until expended and are available only for purchase power and wheeling expenses. FY 2021 obligations for PPW were $361 million due to an extreme weather event in February and market volatility throughout the year. This resulted in utilization of $169 million (44%) of the reserve balances in FY 2021.

WAPA received a $500 million emergency appropriation through the Infrastructure Investment and Jobs Acts, providing near-term relief for immediate concerns regarding the reduced level of PPW reserves. Funds can be transferred from WAPA's CROM account to the Colorado River Basins Power Marketing Fund (CRBPMF) account as WAPA's Administrator determines is needed for purchase of power and transmission services per statute. The allocation of the IIJA funding will be prioritized in a manner that facilitates the restoration of PPW reserves in both the CROM and CRBPMF accounts.

Since WAPA's inception, the full cost of the PPW program has been included in the rate setting process. Through this process, and utilizing interim rate adjusting capabilities, all PPW costs are fully recovered through WAPA's rates.

<u>Central Valley Project</u>
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 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. In order to provide service in the state, WAPA is voluntarily participating in the California greenhouse gas cap-and-trade program which became effective January 1, 2013.

<u>Pick-Sloan Missouri Basin and Other Programs</u>
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 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Central Valley Project		
Program Requirements ($318,235,000) 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 ($298,092,000)* 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 (-$20,143,000)* The decrease is attributed to -$1.4M in anticipated purchase needs based on hydro generation estimates to meet contractual needs as well as a decrease in anticipated customer requirements. Amounts are for offsetting collections and alternative financing; no direct appropriations are requested for this activity.
Alternative Financing (-$196,235,000) 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 (-$177,479,000)* 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 (+$18,756,000)* Previously anticipated customer requirements offset by alternative financing has not materialized, resulting in the decrease.
Pick-Sloan Missouri Basin		
Program Requirements ($167,655,000) 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 ($327,313,000)* 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 (+$159,658,000)* The increase is attributed to energy imbalance market costs for ancillary services across WAPA's service territory, as well as increased market pricing and purchase volumes forecasted based on lower hydro generation estimates. Amounts are for offsetting collections and alternative financing; no direct appropriations are requested for this activity.

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Alternative Financing (-$97,655,000) 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 (-$97,843,000)* 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 (-$188,000)* The slight increase in the offset is attributed to estimated transmission costs expected to be funded through alternative financing coming from WAPA's participation in markets (Southwest Power Pool). Amounts are for alternative financing. No direct appropriations are requested for this activity.

Construction, Rehabilitation, Operation & Maintenance
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 DOE's and WAPA's mission of operating and maintaining a resilient and secure energy grid by attaining and developing a critical highly skilled workforce of engineers, dispatchers, linemen, power system operators, and high voltage electricians. The Program Direction subprogram also includes the administrative staff, including those positions that monitor, detect and deter physical and cyber-attacks on WAPA's infrastructure.

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.

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. The timing and scope of these replacements and upgrades are critical to assure that WAPA's facilities do not become the "weak link" in the interconnected system. 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.

Program Direction
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Program Direction					
Salaries and Benefits	172,151	172,151	191,911	+19,760	+11%
Travel	10,658	10,658	10,610	-48	0%
Support Services	31,811	31,811	36,958	+5,147	+16%
Other Related Expenses	38,955	38,955	37,808	-1,147	-3%
Total, Program Direction	**253,575**	**253,575**	**277,287**	**+23,712**	**+9%**
Use of Alternative Financing	-48,546	-48,546	-54,868	-6,322	+13%
Use of Receipts from Colorado River Dam Fund	-6,510	-6,510	-7,955	-1,445	+22%
Offsetting Collections, Other Expenses	-145,010	-145,010	-171,661	-26,651	+18%
Use of Prior Year Balances	-12,800	-12,800	0	12,800	-100%
Total, Program Direction	**40,709**	**40,709**	**42,803**	**+2,094**	**+5%**
Federal FTEs	**1,216**	**1,216**	**1,201**	**-15**	**-1%**
Support Services					
Technical Support					
Economic and Environmental Analysis	9,631	9,631	15,995	+6,364	+66%
Total, Technical Support	**9.631**	**9,631**	**15,995**	**+6,364**	**+66%**
Management Support					
Automated Data Processing	13,024	13,024	11,645	-1,379	-11%
Training and Education	3,416	3,416	3,313	-103	-3%
Reports and Analysis, Management and General Administrative Support	5,740	5,740	6,005	+265	+5%
Total Management Support	**22,180**	**22,180**	**20,963**	**-1,217**	**-5%**
Total, Support Services	**31,811**	**31,811**	**36,958**	**+5,147**	**+16%**
Other Related Expenses					
Rent to GSA	2,431	2,431	2,200	-231	-10%
Communication, Utilities, Misc.	6,832	6,832	6,969	137	+2%
Printing and Reproduction	111	111	81	-30	-27%

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Other Services	15,015	15,015	12,189	-2,826	-19%
Training	12	12	2	-10	-83%
Purchases from Gov. Accounts	1,544	1,544	1,285	-259	-17%
Operation and Maintenance of Equipment	4,785	4,785	6,784	+1,999	+42%
Supplies and Materials	2,077	2,077	2,285	+208	10%
Equipment	3,681	3,681	3,205	-476	-13%
Working Capital Fund	2,467	2,467	2,808	+341	+14%
Total, Other Related Expenses	**38,955**	**38,955**	**37,808**	**-1,147**	**-3%**

Construction, Rehabilitation, Operation & Maintenance
Program Direction

Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Top Funding Level vs FY 2021 Enacted
Program Direction **$253,575,000**	**$277,287,000**	**+$23,712,000**
Salaries and Benefits $172,151,000	**$191,911,000**	**+$19,760,000**
Salary and benefits provide for Federal employees who construct and replace, operate and maintain and secure, on a continuing basis, WAPA's high-voltage interconnected transmission system. Salary and benefits fund those FTEs assigned to this account, including those salaries determined through negotiations.	Salary and benefits funding is for Federal employees who construct and replace, operate and maintain and secure, on a continuing basis, WAPA's high-voltage interconnected transmission system.	The salary and benefits reflect inflationary factors and higher negotiated baseline salaries for journeymen.
Travel $10,658,000	**$10,610,000**	**-$48,000**
This activity funds all travel, and related expenses associated with WAPA's mission-related operation and maintenance activities, and those functions that support them.	Request funds all travel, and related expenses associated with WAPA's mission-related operation and maintenance activities, and those functions that support them.	Request reflects variabilities in scope and location associated with mission related operation and maintenance travel, and travel for cross-functional collaboration among various internal and external programs.
Support Services $31,811,000	**$36,958,000**	**+$5,147,000**
Support Services funded in this category include information technology, job related training and education, engineering, miscellaneous advisory and reporting services, and general administrative support.	Request funds information technology, job related training and education, engineering, miscellaneous advisory and reporting services, and general administrative support services.	Increase reflects technical support needed for operations security and enterprise applications, with offsets in automated data processing.

Other Related Expenses $38,955,000	$37,808,000	-$1,147,000
Other related expenses include rental space, utilities, supplies and materials, telecommunications, information technology modernization (data/network), printing and reproduction, training tuition, and DOE's Working Capital Fund distribution. Rental space costs assume the General Services Administration's (GSA) inflation factor. Other costs are based on historical usage and actual cost of similar items.	Request funds rental space, utilities, supplies and materials, telecommunications, information technology modernization (data/network), printing and reproduction, training tuition, and DOE's Working Capital Fund distribution. Rental space costs assume the General Services Administration's (GSA) inflation factor. Other costs are based on historical usage and actual cost of similar items.	The primary decrease is attributable to other support services related to substation and transmission facility maintenance and slight decreases in rent, and equipment purchases; with offsetting increase in IT operations and maintenance services.

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

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request
Gross	7,302	7,302	7,928
Offsets	-7,074	-7,074	-7,700
Net BA	**228**	**228**	**228**

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 2023 Budget Request

In FY 2023, 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 FY 2023 planned expenses for the facilities operated by the IBWC. Also included in FY 2023 is the continuation of WAPA's request to allow 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 are planned to predominantly assist in capitalized replacement projects.

Outyear Funding
($K)

	FY 2023 Request	FY 2024	FY 2025	FY 2026	FY 2027
Falcon and Amistad Operating and Maintenance Fund Net BA	**228**	**228**	**228**	**228**	**228**

Major Outyear Priorities and Assumptions

Outyear funding levels for the Maintenance Fund total $912,000 for FY 2024 through FY 2027. Maintenance Fund priorities include the following:

- Annual operations and maintenance expenses will be offset by revenues collected from the customer
- The annual $228 thousand appropriation, along with customer advances, are necessary for capitalized replacement projects

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

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Western Area Power Administration					
Falcon and Amistad Operating and Maintenance Fund	7,302	7,302	7,928	+626	+9%
Subtotal, Falcon and Amistad Operating and Maintenance Fund	**7,302**	**7,302**	**7,928**	**+626**	**+9%**
Offsetting Collections	-5,548	-5,548	-6,102	-554	+10%
Use of Prior Year Balances	0	0	0	0	0%
Alternative Financing	-1,526	-1,526	-1,598	-72	+5%
Total, Falcon and Amistad Operating and Maintenance Fund	**228**	**228**	**228**	**0**	**0%**

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 hydroelectric power plants on each side of the Rio Grande River. The power plants are independent and legislatively severable from the international reservoir storage dams. 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.

IBWC

O&M

Activities include salaries and benefits for the approximately 40 positions of the U.S. Section of the IBWC who operate and maintain the two power plants on a 24-hour/day basis, planned maintenance activities, required safety services, and emergency response to flood operations and/or equipment failure. O&M includes 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. Travel, training, communications, utilities, printing, and office supplies and materials for the IBWC employees and technical advisors is also funded by the O&M activity. 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.

Capital Investment

WAPA, the IBWC, and the customer have collaboratively developed a rehabilitation work plan to address immediate and future infrastructure needs for the hydroelectric facilities. Future infrastructure needs will be appropriately planned and categorized by all parties through regularly scheduled progress reviews.

WAPA

Marketing, Contract, Repayment Studies

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 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Falcon and Amistad Operating and Maintenance Fund		
$7,302,000	**$7,928,000**	**+$626,000**
IBWC O&M ($5,470,000) 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, equipment inspections and maintenance services, and travel, training, communications, utilities, printing, and office supplies/materials for the IBWC employees and technical advisors.	*IBWC O&M ($6,041,000)* 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, equipment inspections and maintenance services, and travel, training, communications, utilities, printing, and office supplies/materials for the IBWC employees and technical advisors.	*IBWC O&M (+$571,000)* The request reflects projects in the 10-year O&M work plan that was developed to address recommendations in the U.S. Army Corps of Engineers (USACE) inspection report completed in 2018. Projects planned for FY 2023 include sand blast and repaint of penstock unit 2 at Amistad, and 5-year USACE inspection at both facilities. Amounts are for offsetting collections; no direct appropriations are requested for this activity.
IBWC Capital Investment ($1,754,000) This activity funds capital investment activities at the Falcon and Amistad hydroelectric facilities.	*IBWC Capital Investment ($1,826,000)* This activity funds capital investment activities at the Falcon and Amistad hydroelectric facilities.	*IBWC Capital Investment (+$72,000)* The request reflects projects in the 10-year capital work plan that was developed to address recommendations in the U.S. Army Corps of Engineers inspection report completed in 2018. Projects planned for FY 2023 include replacement of the fire alarm system at Amistad, and repair and re-insulate stator at Falcon generator.
WAPA Marketing, Contracts, Repayment ($78,000) This activity funds power marketing, administration of power contracts, and preparation of rate and repayment studies.	*WAPA Marketing, Contracts, Repayment ($61,000)* This activity funds power marketing, administration of power contracts, and preparation of rate and repayment studies.	*WAPA Marketing, Contracts, Repayment (-$17,000)* The decrease is attributed to costs for WAPA's power repayment software ending in FY 2022. Amounts are for offsetting collections; no direct appropriations are requested for this activity.

Colorado River Basins Power Marketing Fund
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request
Gross	245,047	245,047	258,466
Offsets	-266,447	-266,447	-267,034
Net BA	**-21,400**	**-21,400**	**-8,568**

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 the Colorado River Storage Project, including the Dolores and Seedskadee and Olmsted Projects, and the Fort Peck 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 2023 Budget Request
In FY 2023, 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 2023 planned expenses for the power systems in the CRBPMF. While severe drought conditions persist in the Colorado River basin, the budget assumes reservoirs will remain at levels supporting continued hydropower generation capability. The Budget anticipates a return to Treasury of $8.6 million from the WAPA CRBPMF account.

Outyear Funding
($K)

	FY 2023 Request	FY 2024	FY 2025	FY 2026	FY 2027
CRBPMF Net BA	**-8,568**	**0**	**0**	**0**	**0**

Major Outyear Priorities and Assumptions
Outyear funding levels for CRBPMF total $0 for FY 2024 through FY 2027. CRBPMF priorities include the following:

- Meeting power marketing and contractual power delivery obligations
- Addressing impact of severe drought and revenue concerns

Colorado River Basins Power Marketing Fund
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Colorado River Basins Power Marketing Fund					
Equipment, Contracts and Related Expenses					
Supplies, Materials and Services	13,330	13,330	12,728	-602	-5%
Purchase Power Costs	116,673	116,673	119,236	+2,563	+2%
Capitalized Equipment	15,449	15,449	16,863	+1,414	+9%
Interest/Transfers	3,368	3,368	3,405	+37	+1%
Generating Agency Activities	25,911	25,911	26,695	+784	+3%
Total, Equipment, Contracts and Related Expenses	**174,731**	**174,731**	**178,927**	**+4,196**	**+2%**
Program Direction	**70,316**	**70,316**	**79,539**	**+9,223**	**+13%**
Total, Operating Expenses from new authority	**245,047**	**245,047**	**258,466**	**+13,419**	**+5%**
Offsetting Collections Realized	-266,447	-266,447	-267,034	-587	0%
Total, Obligational Authority	**-21,400**	**-21,400**	**-8,568**	**+12,832**	**-60%**

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, 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. 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. Replacement and upgrade of aged power system components are crucial to system reliability and transmission services.

Transmission line estimates include the purchase of poles, crossarms, conductors, fusion splicers, line switches, overhead ground wire and hardware for the continued transmission line rebuilds. This estimate includes line rebuilds with the anticipated completion of 10 miles a year.

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 restore service more efficiently 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 test equipment used 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 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.

Generating Agency Activities

This activity direct funds the U.S. Army Corps of Engineers for operation and maintenance and procurement of capitalized equipment for the Fort Peck Power Plant. Estimates are based on recent actual costs for supplies needed to maintain generating system reliability.

Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Equipment and Related Expenses $174,731,000	**$178,927,000**	**+$4,196,000**
Supplies, Materials & Services ($13,330,000) This activity funds the procurement of supplies, materials, and services necessary to respond to routine and emergency situations in the transmission system.	*Supplies, Materials & Services ($12,728,000)* This activity funds the procurement of supplies, materials, and services necessary to respond to routine and emergency situations in the transmission system.	*Supplies, Materials & Services (-$602,000)* This is primarily attributed to decrease in services for IT Maintenance Services and Non-Capitalized Equipment.
Purchase Power Costs ($116,673,000) This activity funds the procurement of electrical power, transmission capacity and wheeling services on the open market. Purchase power cost estimates are based on 24-month study factors including water cycle, snowpack, and market rates.	*Purchase Power Costs ($119,236,000)* This activity funds the procurement of electrical power, transmission capacity and wheeling services on the open market. Purchase power cost estimates are based on 24-month study factors including water cycle, snowpack, and market rates.	*Purchase Power Costs (+$2,563,000)* The increase is primarily attributed to purchase power requirements and costs. Severe drought conditions continue to persist.
Capitalized Equipment ($15,449,000) 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 ($16,863,000)* This activity funds the procurement of capitalized equipment including circuit breakers, transformers, relays, switches, transmission line equipment, SCADA, and other communication and control equipment to assure reliable service to WAPA's customers.	*Capitalized Equipment (+$1,414,000)* Request reflects increases in Communication, Movable Property and Transmission Line Replacements with an offset in Substation Replacements.

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Interest/Transfers ($3,368,000) 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 ($3,405,000)* 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 (+$37,000)* The slight increase in interest/transfers is due to the ongoing annual debt service payments made on capital repayments as calculated in the Power Repayment Study.
Generating Agency Activities ($25,911,000) This activity direct funds the U.S. Army Corps of Engineers operation and maintenance and procurement of capitalized equipment for the Fort Peck Power Plant.	*Generating Agency Activities ($26,695,000)* This activity direct funds the U.S. Army Corps of Engineers for operation and maintenance and procurement of capitalized equipment for the Fort Peck Power Plant.	Generating Agency Activities (+$784,000) The increase reflects scheduled replacements for capitalized communication, substation equipment and maintenance for the Fort Peck Power Plant.

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 2023 Budget Request

The FY 2023 request provides for the continuation of WAPA's revolving fund activities related to Program Direction at the level necessary to meet mission requirements. The requested level of 308 FTE is critical to WAPA's mission activities.

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

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Program Direction					
Salaries and Benefits	49,157	49,157	55,423	+6,266	+13%
Travel	3,396	3,396	3,428	+32	+1%
Support Services	7,091	7,091	9,032	+1,941	+27%
Other Related Expenses	10,672	10,672	11,656	+984	+9%
Total, Program Direction	**70,316**	**70,316**	**79,539**	**+9,223**	**+13%**
Federal FTEs	**294**	**294**	**308**	**14**	**+5%**
Support Services					
Technical Support					
Engineering and Technical Services	1,573	1,573	2,858	+1,285	+82%
Total, Technical Support	**1,573**	**1,573**	**2,858**	**+1,285**	**+82%**
Management Support					
Automated Data Processing	2,749	2,749	3,225	+476	+17%
Training and Education	1,011	1,011	1,027	+16	+2%
Reports and Analyses, Management and General Administrative Support	1,758	1,758	1,922	+164	+9%
Total, Management Support	**5,518**	**5,518**	**6,174**	**+656**	**+12%**
Total, Support Services	**7,091**	**7,091**	**9,032**	**+1,941**	**+27%**
Other Related Expenses					
Rent to GSA	694	694	180	-514	-74%
Communication, Utilities, Misc.	1,854	1,854	2,466	+612	+33%
Printing and Reproduction	24	24	24	0	0%
Other Services	4,046	4,046	4,145	+99	+2%
Training	15	15	11	-4	-27%
Purchases from Gov. Accounts	319	319	364	+45	+14%
Operation and Maintenance of Equipment	1,374	1,374	2,008	+634	+46%

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Supplies and Materials	596	596	676	+80	+13%
Equipment	1,057	1,057	949	-108	-10%
Working Capital Fund	693	693	833	+140	+20%
Total, Other Related Expenses	**10,672**	**10,672**	**11,656**	**+984**	**+9%**

Colorado River Basins Power Marketing Fund
Program Direction

Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Program Direction $70,316,000	**$79,539,000**	**+$9,223,000**
Salaries and Benefits $49,157,000	**$55,423,000**	**+$6,266,000**
Salary and benefits support General Schedule employees, as well as those salaries determined through negotiations. 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.	Salary and benefits support General Schedule employees, as well as those salaries determined through negotiations. 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.	The increase in salaries and benefits supports the increased level of FTE charging to this account for maintenance and capital activities. The salary and benefits also capture inflationary factors.
Travel $3,396,000	**$3,428,000**	**+32,000**
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.	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 slight increase in travel reflects continued effort to use technological capabilities to decrease travel requirements with slight offset for inflationary factors.
Support Services $7,091,000	**$9,032,000**	**+$1,941,000**
Support services funded in this category include information technology support, warehousing, computer-aided drafting/engineering, job related training and education, and general administrative support.	Support services funded in this category include information technology support, warehousing, computer-aided drafting/engineering, job related training and education, and general administrative support.	The increase is primarily due to services that support engineering and technical infrastructure activities.

Other Related Expenses $10,672,000	$11,656,000	+$984,000
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 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.	The increase to this activity is primarily driven by general services for transmission, substation and communication operation and maintenance, utilities, and working capital fund.

Transmission Infrastructure Program
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request
Gross	12,454	12,454	12,642
Offsets	-12,454	-12,454	-12,642
Net BA	**0**	**0**	**0**

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 expected to be 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 a potential project 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 the 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 one project currently using the borrowing authority for a total of $91 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 of the FY 2023 Budget Request

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, estimates of future project development, and departmental collaboration, which are subject to change. While based on knowledge and experience to date, these estimates are to be regarded as non-binding representations that are determined by Project Sponsors/Proponents.

Outyear Funding
($K)

	FY 2023 Request	FY 2024	FY 2025	FY 2026	FY 2027
TIP Net BA, Mandatory	**200,000**	**1,675,000**	**-500,000**	**-325,000**	**-725,000**
TIP Net BA, Discretionary	**0**	**0**	**0**	**0**	**0**

Major Outyear Priorities and Assumptions

Outyear funding levels for TIP total $125,000,000 net mandatory and $0 net discretionary for FY 2024 through FY 2027. TIP priorities include the following:

- Mandatory amounts provide borrowing authority, offset by repayment of debt, for anticipated projects currently under development with project sponsors/proponents
- Discretionary amounts provide advance funding, offset by collections from project developers, for projects being evaluated for technical and financial merit prior to application for borrowing

Transmission Infrastructure Program
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Mandatory, Direct Budget Authority					
New Borrowing Authority	100,000	100,000	200,000	+100,000	+100%
Use of Collections from Projects	5,000	5,000	6,000	+1,000	+20%
Collections from Projects	-5,000	-5,000	-6,000	-1,000	+20%
Total Mandatory	**100,000**	**100,000**	**200,000**	**+100,000**	**+100%**
Repayment of Borrowing Authority	0	0	0	0	0%
Federal FTEs (Mandatory)	**0**	**0**	**0**	**0**	**0%**
Discretionary, Reimbursable Budget Authority					
Program Direction	12,454	12,454	12,642	+188	+2%
Advance Funding	-2,025	-2,025	-1,750	+275	-14%
Offsetting Collections	-10,429	-10,429	-10,892	-463	+4%
Total Discretionary	**0**	**0**	**0**	**0**	**0%**
Federal FTEs (Discretionary)	**11**	**11**	**12**	**+1**	**+9%**
Total, Transmission Infrastructure Program					
Total, Federal FTEs	**11**	**11**	**12**	**+1**	**+9%**

Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Direct Budget Authority $100,000,000	**$200,000,000**	**+$100,000,000**
New Borrowing Authority $100,000,000	**$200,000,000**	**+$100,000,000**
Estimated new projects approved for use of WAPA's borrowing authority.	Estimated new projects approved for use of WAPA's borrowing authority.	The increase is due to higher estimated borrowing authority for projects from Project Sponsors/Proponents.
Collections from Projects $5,000,000	**$6,000,000**	**+$1,000,000**
Collections in this category are from excess capacity offtake from borrowing authority funded projects.	Collections in this category are from excess capacity offtake from borrowing authority funded projects. TIP estimates collecting $6 million in excess capacity from the ED5 energized line in FY 2023. These collections will be used for costs associated with operating and maintaining those lines generating the capacity, and interest and principal payments.	TIP estimates collecting $6 million in excess capacity from the ED5 energized line. These collections will all be obligated and used for costs associated with operating and maintaining those lines generating the capacity, and interest and principal payments.
Repayment of Borrowing Authority $0	**$0**	**$0**
This activity represents repayments to Treasury from projects for principal.	This activity represents repayments to Treasury from projects for principal.	There are no anticipated repayments to Treasury.

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 expected to be offset by customers over time, 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.

The Program Direction subprogram supports DOE and WAPA missions, specifically in facilitating delivery of renewable energy resources to market.

Program Direction
Funding ($K)

	FY 2021 Enacted	FY 2022 Annualized CR	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Transmission Infrastructure					
Salaries and Benefits	1,225	1,225	1,569	+344	+28%
Travel	60	60	55	-5	-8%
Support Services	756	756	906	+150	+20%
Other Related Expenses	10,413	10,413	10,112	-301	-3%
Subtotal, Program Direction	**12,454**	**12,454**	**12,642**	**+188**	**+2%**
Use of Offsetting Collections	-12,454	-12,454	-12,642	-188	+2%
Total, Program Direction	**0**	**0**	**0**	**0**	**0%**
Federal FTEs (Mandatory Direct)	**0**	**0**	**0**	**0**	**0%**
Federal FTEs (Discretionary Reimbursable)	**11**	**11**	**12**	**+1**	**+9%**
Federal FTEs (Total TIP)	**11**	**11**	**12**	**+1**	**+9%**
Support Services					
Technical Support					
Engineering and Technical Services	358	358	720	+362	+101%
Total, Technical Support	**358**	**358**	**720**	**+362**	**+101%**
Management Support					
Automated Data Processing	285	285	127	-158	-55%
Training and Education	13	13	15	+2	+15%
Reports and Analyses, Management and General Administrative Support	100	100	44	-56	-56%
Total Management Support	398	398	186	-212	-53%
Total, Support Services	**756**	**756**	**906**	**+150**	**+20%**
Other Related Expenses					
Communications; Utilities; Miscellaneous Charges	20	20	27	+7	+35%
Services from Non-Federal and Federal Sources	5,389	5,389	2,581	-2,808	-52%
Supplies and Materials	4	4	4	0	0%
Interest Payments	5,000	5,000	7,500	+2,500	+50%
Total, Other Related Expenses	**10,413**	**10,413**	**10,112**	**-301**	**-3%**

Program Direction

Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Program Direction $12,454,000	**$12,642,000**	**+188,000**
Salaries and Benefits $1,225,000	**$1,569,000**	**+344,000**
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.	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.	The increase of salary and benefits reflects direct and indirect support provided to this account and captures inflationary factors.
Travel $60,000	**$55,000**	**-$5,000**
Planned essential travel supports TIP's mission related activities. TIP supports efficient spending initiatives and is cognizant of travel costs associated with general program operations. TIP focuses on using alternative means to conduct meetings and training sessions where appropriate.	Planned essential travel supports TIP's mission related activities. TIP supports efficient spending initiatives and is cognizant of travel costs associated with general program operations. TIP focuses on using alternative means to conduct meetings and training sessions where appropriate.	This is a decrease in travel. Efforts to use video conferencing, web-based meetings, and similar technologies in lieu of traveling are ongoing, where appropriate. Travel supports TIP's effort towards its mission related travel in collaboration with potential project sponsors.
Support Services $756,000	**$906,000**	**+$150,000**
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.	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.	The increase in support services is due to the growth in technical support associated with project management and stage of development of projects given revised work scope demands.
Other Related Expenses $10,413,000	**$10,112,000**	**-$301,000**

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Other related expenses include communications, utilities, training, depreciation, WAPA overhead rates, supplies and materials, services from Federal and Non-Federal sources and interest loan payments.	Other related expenses include communications, utilities, training, depreciation, WAPA overhead rates, supplies and materials, services from Federal and Non-Federal sources and interest loan payments.	The decrease is due to a decrease in services from Non-Federal sources offset by an increase in anticipated loan interest payments.

Estimate of Gross Revenues [1]

(Dollars in Thousands)

	FY 2021[2]	FY 2022	FY 2023
Boulder Canyon Project	67,257	92,219	94,844
Central Valley Project	272,091	407,203	416,800
Falcon-Amistad Project	7,654	8,178	7,435
Fryingpan-Arkansas Project	20,185	18,103	20,801
Pacific Northwest-Southwest Intertie Project	52,877	41,251	39,636
Parker-Davis Project	90,002	83,928	87,581
Pick-Sloan Missouri Basin Program	629,197	541,252	589,475
Provo River Project	497	76	518
Washoe Project	390	446	446
Salt Lake City Area Integrated Projects	243,084	174,124	175,144
Other	279,292	0	0
Total, Gross Revenues	**1,662,526**	**1,366,779**	**1,432,681**

[1] Amounts for FY 2022 and FY 2023 are based on the FY 2020 Final Power Repayment Studies (PRS).

[2] FY 2021 amounts are actuals from the preliminary annual financial reports. For Central Valley Project, FY 2021 amounts reported exclude contractual pass-through purchase power arrangements which are included in the PRS estimates. The 'Other' FY 2021 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 2021 Actual	FY 2022	FY 2023
Mandatory Receipts			
Falcon Amistad Maintenance Fund	319	0	0
Sale and Transmission of Electric Power, Falcon and Amistad Dams	600	1,000	1,000
Sale of Power and Other Utilities Not Otherwise Classified	0	10,000	10,000
Sale of Power–WAPA–Reclamation Fund	269,943	64,621	81,254
Total, Mandatory Receipts	**270,862**	**75,621**	**92,254**
Discretionary Receipts			
Offsetting Collections from the Recovery of Power Related Expenses – WAPA CROM	192,000	192,000	350,083
Less Purchase Power and Wheeling Expenses	-192,000	-192,000	-350,083
Subtotal, WAPA CROM Recovery of Power Related Expenses	0	0	0
Offsetting Collections from the Recovery of Annual Expenses – WAPA CROM	169,754	169,754	200,841
Less Operating and Maintenance expenses	-24,744	-24,744	-29,180
Less Program Direction Expenses	-145,010	-145,010	-171,661
Subtotal, WAPA CROM Recovery of Annual Expenses	0	0	0
Offsetting Collections from the recovery of power related expenses – Falcon and Amistad	5,548	5,548	6,102
Less Operating and Maintenance expenses	-5,548	-5,548	-6,102
Subtotal, Falcon and Amistad Recovery of Power Related Expenses	0	0	0
Total, Discretionary Receipts	**0**	**0**	**0**
Total, Proprietary Receipts	**270,862**	**75,621**	**92,254**

Western Area Power Administration
Estimate of Offsetting Collections for Reimbursable Work and Work-for-Others

	(Dollars in Thousands)		
	FY 2021	FY 2022	FY 2023
Construction, Rehabilitation, Operation and Maintenance (CROM)			
Offsetting Collections for Reimbursable Work [1]			
Alternative Financing			
Operations and Maintenance	6,297	7,122	7,641
Construction and Rehabilitation	20,353	31,090	38,219
Purchase Power and Wheeling (PPW)	293,890	273,677	275,322
Program Direction	48,546	51,849	54,868
Subtotal, Alternative Financing	369,086	363,738	376,050
Offsetting Collections not anticipated for obligation in budget year	2,936	188,792	47,137
Less PPW net billing, bill crediting, energy exchange	-233,400	-242,646	-238,591
Offsetting collections from Colorado River Dam Fund	8,378	9,116	9,404
Subtotal, Offsetting Collections for Reimbursable Work	**147,000**	**319,000**	**194,000**
Offsetting Collections for Reimbursable Work-for-Others [2]	**601,000**	**337,000**	**212,000**
Total, Offsetting Collections for Reimbursable	**748,000**	**656,000**	**406,000**

[1] WAPA relies significantly on alternative financing arrangements with customers to finance much of its direct mission work on a reimbursable basis.

[2] WAPA has partnering arrangements with many power customers and Federal agencies to perform electrical systems operations, maintenance, construction, purchase power, and transmission services on a reimbursable basis.

Bonneville Power Administration (Bonneville, BPA)

Expenditures from the Bonneville Power Administration Fund, established pursuant to Public Law 93–454, are approved for the Colville Tribes Resident Fish Hatchery Expansion, Chief Joseph Hatchery Water Quality Project, and Umatilla Hatchery Facility Project, and, in addition, for official reception and representation expenses in an amount not to exceed $5,000: Provided, that during fiscal year 2023, no new direct loan obligations may be made.

Explanation of Changes

Language is included to allow expenditures from the Bonneville Power Administration Fund for the Colville Tribes Resident Fish Hatchery Expansion, the Chief Joseph Hatchery Water Quality Project, and the Umatilla Hatchery Facility Project.

The proposed appropriations language restricts new direct loans in FY 2023 as in FY 2022**.** This bill language is drafted consistent with the Credit Reform Act of 1990.

Please Note - The FY 2023 Bonneville Power Administration Congressional Budget submission includes FY 2022 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, and the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act) (Public Law 96-501) for acquisition of energy conservation, renewable and other power resources, investment in fish facilities, and other purposes, the American Recovery and Reinvestment Act of 2009 (Public Law 111-5), the Infrastructure Investment and Jobs Act of 2021 (Section 40110, Public Law 117-58) and other legislation. Authority to borrow from the U.S. Treasury is available to Bonneville on a permanent, revolving basis. The principal amount of U.S. Treasury borrowing outstanding at any time may not exceed $17.70 billion. The obligation of the $10.0 billion in additional borrowing authority that is made available to the Bonneville Administrator under Section 40110 of Public Law 117-58, shall not exceed $6 billion by fiscal year 2028. Bonneville finances its approximate $4.4 billion annual cost of operations and investments by primarily using its 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.

Bonneville Power Administration

Funding Profile by Subprogram [1/]

(Accrued Expenditures in Thousands of Dollars)

	Fiscal Year			
	2021 Actuals	2022 Original [/2]	2022 Revised [/2]	2023 Proposed
Capital Investment Obligations				
Associated Project Costs [3/]	201,575	264,120	264,120	281,260
Fish & Wildlife	41,897	43,000	43,000	43,000
Subtotal, Power Services	243,473	307,120	307,120	324,260
Transmission Services	347,592	497,086	475,770	497,160
Capital Equipment & Bond Premium	26,098	22,002	21,994	21,047
Total, Capital Obligations [3/]	617,163	826,208	804,885	842,468
Expensed and Other Obligations				
Expensed	2,892,478	2,733,825	2,730,236	2,756,169
Projects Funded in Advance [5/]	63,292	55,775	55,542	61,166
Total, Obligations	3,572,934	3,615,807	3,590,662	3,659,803
Capital Transfers (cash)	805,799	696,000	699,000	734,000
Bonneville Total (Oligations & Capital Transfers)	4,378,732	4,311,807	4,289,662	4,393,803
Bonneville Net Outlays	(254,000)	(324,967)	(407,880)	(309,363)
Full-time Equivalents (FTEs) [4/]	2,825	3,000	3,000	3,000

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			
	2024	2025	2026	2027
Capital Investment Obligations				
Associated Project Costs [3/]	300,000	306,850	313,647	320,466
Fish & Wildlife	30,000	25,000	15,000	15,000
Subtotal, Power Services	330,000	331,850	328,647	335,466
Transmission Services	584,056	664,307	647,685	540,696
Capital Equipment & Bond Premium	19,703	19,040	17,369	21,272
Total, Capital Obligations [3/]	933,759	1,015,197	993,701	897,435
Expensed and Other Obligations				
Expensed	2,868,496	2,914,635	2,986,041	3,052,506
Projects Funded in Advance [5/]	47,529	35,115	35,363	36,680
Total, Obligations	3,849,784	3,964,946	4,015,105	3,986,621
Capital Transfers (cash)	744,000	709,000	747,000	758,000
Bonneville Total (Oligations & Capital Transfers)	4,593,784	4,673,946	4,762,105	4,744,621
Bonneville Net Outlays	(181,745)	(72,169)	(38,258)	(87,060)
Full-time Equivalents (FTEs) [4/]	3,000	3,025	3,075	3,125

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 2022 OMB 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 2022. The BPA estimates in this budget are consistent with the BP-22 IPR.

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

4/ As of 11/03/2021, DOE HR staff has reported FY 2021 BPA's FTE usage at 2,825.

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

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 2021 are $6,230 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 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, continued restructuring of the electric industry, and other reasons.

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 2021 Net Outlays are calculated using Bonneville's audited actuals. FYs 2022 to 2027 Net Outlays are based on BP-22 IPR assumptions and an escalation factor from using the FY 2019 Whitebook Loads and Resources Report.

FTE outyear data are estimates and may change. Bonneville is facing a dynamic and changing energy 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.

Amounts in tables and schedules may not add to totals due to rounding.

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.

Bonneville provides electric power services, transmission services, and acquires 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 14 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). In addition, Bonneville also acquires power from non-federal generating resources, including the power from a nuclear power plant, the Columbia Generating Station (CGS). Bonneville uses the power from its non-federal purchases and the federal projects, collectively the Federal Columbia River Power System (FCRPS), primarily to meet the Administrator's long term firm power sales contract obligations. Bonneville currently maintains and operates 15,108 circuit miles of transmission lines, 262 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 encourages the development of conservation and energy efficiency, as part of meeting its obligations to supply power and balance the economic and environmental benefits of the FCRPS.

The organization of Bonneville's FY 2023 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 and Transmission Services and include their related administrative costs. Power Service's costs include line items for Fish and Wildlife, Energy Efficiency, Residential Exchange Program, Federal Projects Operations & Maintenance (O&M) Costs, and the Northwest Power and Conservation Council (Planning Council or Council). Transmission Service's costs include line items for engineering, operations, and maintenance for Bonneville's electric transmission system.

Bonneville's mission as a public service organization is to create and deliver federal power and transmission services at cost as it acts to assure its customers in the Pacific Northwest have 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 impacts on fish and wildlife from the federally owned hydroelectric projects from which BPA markets power.

Bonneville's vision is to be an engine of the Northwest's economic prosperity and environmental sustainability by advancing a Northwest power and transmission system that is a national leader in providing high reliability, low rates consistent with sound business principles, responsible environmental stewardship, and accountability to the region, all through a commercially successful business. Bonneville pursues this vision consistent with its four core values of safety, trustworthy stewardship, collaborative relationships, and operational excellence.

Legislative History

The Bonneville Project Act of 1937 provides the statutory basis 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. As of the end of FY 2021, Bonneville had revolving U.S. Treasury borrowing authority of $7.7 billion of which approximately $2.1 billion remained available to be drawn. Section 40110 of the Infrastructure Investment and Jobs Act (Public Law 117-58), enacted on November 15, 2021, provides Bonneville $10 billion in additional permanent borrowing authority.

The 1980 enactment of the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act) expanded Bonneville's authorities, obligations, and responsibilities. The purposes of the act include encouraging development of electric energy conservation to meet regional electric power loads placed on Bonneville; the development of 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 a revised statutory

framework for Bonneville's administrative rate-setting process and established judicial review of Bonneville's final actions in the U.S. Court of Appeals for the Ninth Circuit.

Strategic Direction

In early 2018, Bonneville released its 2018-2023 Strategic Plan which describes how it will operate in a commercially successful manner while meeting its statutory obligations. Bonneville developed this strategic plan after listening to customers and constituents express their interests in Bonneville's commercial viability and ability to meet those obligations. The strategic plan was developed at the point when Bonneville was midway through 20-year firm power sales contracts with its preference power customers. Those customers continue to evaluate how Bonneville will be positioned to meet their needs beyond the terms of their current contracts. The strategic plan is framed by these goals:

- Strengthen financial health
- Modernize assets and system operations
- Provide competitive power products and services
- Meet transmission customer needs efficiently and responsively

In 2020, Bonneville reassessed and reconfirmed its strategic goals and objectives. In its Strategic Plan Update, Bonneville added a fifth goal, "Value people and deliver results," which captures the agency's commitment to its workforce and the people it serves.

Financial Plan

In 2018, Bonneville also completed its Financial Plan. The Financial Plan is designed to maintain and enhance the Agency's financial strength. The 2018 Financial Plan establishes a guiding framework for decision-making by defining the financial constraints within which Bonneville operates, and outlines Bonneville's financial health objectives. The plan contains Bonneville's statutory obligations and authorities, financial policies and established practices, and financial health objectives.

BPA is currently working on a refresh of its Financial Plan. The scope of the Financial Plan refresh is focused on debt management, debt capacity and to a limited extent, capital. In September 2021, BPA began engaging customers and constituents through a series of workshops that will continue through July of 2022. BPA will issue its updated Financial Plan by the end of fiscal year 2022 as is required by Section 40110(b) of P.L. 117-58, the Infrastructure Investment and Jobs Act, enacted on November 15, 2021.

Pursuant to the Financial Plan, Bonneville adopted two specific policies. The Financial Reserves Policy (FRP) defines the level of financial reserves Bonneville and each business line should hold; how to build financial reserves when they fall below a prescribed level; and a process to consider repurposing financial reserves when they exceed a prescribed level. The policy provides a framework to help ensure Bonneville maintains a minimum of 60 days cash on hand for each business line and 90 days for the Agency.

The Leverage Policy creates a strategy to reduce Bonneville's total debt compared to its assets in an effort to strengthen financial health and flexibility. Reducing debt will help Bonneville lower its interest costs, support its strong credit rating, maintain access to borrowing from the U.S. Treasury, and improve financial strength and flexibility.

Fiscal Year 2022 and 2023 Rates

BPA adopted its power and transmission rates for Fiscal Years 2022 and 2023 in July 2021 and submitted its adopted rates to the Federal Energy Regulatory Commission (FERC) for final approval. The average BP-22 power rate decreased by 2.5 percent compared to BP-20 rates. For transmission rates, the weighted average increase is approximately 5.4 percent for the two-year rate period. The power rates and transmission rates will be in effect through September 30, 2023.

Financial Mechanisms

Bonneville's program is treated as mandatory and nondiscretionary. Bonneville is "self-financed" from 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 caused by variations in weather conditions and fish mitigation needs.

In the FY 2023 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 "bonds" as all bonds, notes, and other evidence of indebtedness issued and sold by Bonneville to the U.S. Treasury.

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 from the U.S. Treasury to finance capital investments 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.

As of June 2021, debt instruments issued by non-federal entities but secured by payment and other financial commitments provided by Bonneville received the following credit ratings: Moody's at Aa2 with a stable outlook, Standard & Poor's at AA- with a stable outlook, and Fitch at AA with a stable outlook.

U.S. Treasury Payments and Budget Overview

Bonneville's FY 2021 payment to the U.S. Treasury was approximately $1,049 million. This was the 38th consecutive year that Bonneville made its scheduled payments to the U.S. Treasury on time and in full. The payment included $806 million in principal, which included $412 million in early retirement of U.S. Treasury debt, $187 million for interest, $22 million in irrigation assistance payments, and $33 million in pension and post-retirement benefits. Total credits applied toward Bonneville's U.S. Treasury payment were about $111 million for FY 2021. The majority of these credits are established and applied under section 4(h)(10)(C) of the Northwest Power Act. The FYs 2022 and 2023 U.S. Treasury payments are currently estimated at $935 million and $971 million, respectively. The FY 2022 and 2023 4(h)(10)(C) credits are estimated to be $94.2 million and $94.2 million, respectively.

Estimates of interest and amortization levels for outyear U.S. Treasury payments are included in the FY 2022-2023 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 balance of advance amortization payments as of the end of FY 2021 was in excess of $6.2 billion.

Bonneville has direct funding arrangements to fund the power-related portion of O&M and capital investments at the Corps of Engineers and Bureau of 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 FCRPS capital costs, which had been funded exclusively through appropriations to the Corps of Engineers and Bureau of Reclamation prior to the initiation of direct funding, are now funded primarily from the proceeds of bonds issued by Bonneville to the U.S. Treasury. Certain power prepayments have also been a source of funds for direct funding. Bonneville's aggregate direct funding provided for capital and O&M was $590.2 million in FY 2021.

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 manages its overall debt portfolio, which includes both debt that is issued by non-federal entities and secured by Bonneville's financial commitments ("Non-Federal Debt"), and Bonneville's repayment obligations to the United States

Treasury, to meet the objectives of: (i) minimizing the cost to Bonneville's ratepayers, (ii) maximizing Bonneville's access to its lowest cost capital sources to meet future capital needs, and (iii) maintaining sufficient financial flexibility to meet Bonneville's financial requirements.

The most recent efforts have included the issuance of Net Billed Bonds to refund outstanding Net Billed Bonds in Fiscal Year 2014 through Fiscal Year 2020. These refinancings were known as the initial phase of "Regional Cooperation Debt" which have enabled Bonneville to repay, earlier than would otherwise occur, Federal Appropriations Repayment Obligations. The initial phase of Regional Cooperation Debt refinancings achieved significant interest savings of approximately $2.8 billion that is expected to be achieved over the life of the repaid debt.

Similar to the initial phase, the second phase of Regional Cooperation Debt refinancings would have the effect of freeing up amounts in the Bonneville Fund which otherwise would have been used to fund the repayment of the principal of the refunded Net Billed Bonds, which will instead be used to make payments to reduce the outstanding principal amount of bonds issued by Bonneville to the United States Treasury. Bonneville estimates that the aggregate potential principal amount of refinancing Net Billed Bonds that could be issued in Fiscal Year 2021 through Fiscal Year 2030 could approach $3.5 billion.

Power Prepayment Program

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 their current 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 of 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.

Asset Management

The foundation of Bonneville's value is the base of the generating resources from which it markets electricity, and Federal transmission assets it owns and operates. Bonneville utilizes an Asset Management Program based on The Institute of Asset Management (IAM's) conceptual model that aligns with the International Organization of Standardization (ISO) 55000 Series and Publically Available Specification (PAS) 55 standards. Investments are created, selected, and executed based on a strategy to apply best-practice industry standards to manage the lifecycle costs of Federal assets. This is central to maintaining the long-term value and reliability of the power and transmission systems. Achieving these objectives for power requires collaborative, long-term planning with Bonneville's Federal partners, the Corps of Engineers and Bureau of Reclamation. Through the Asset Investment Excellence Initiative, the three agencies are establishing a long term asset investment plan, applying prioritization tools to inform investment decisions to ensure the long term affordability and reliability of the hydropower assets.

Bonneville Power Administration operates within a complex environment that requires asset management tradeoffs. Bonneville's business decisions consider five dimensions of risk: financial, reliability, compliance, safety and environmental.

Reliability and safety remain Transmission priorities. Transmission's asset management capability is continually maturing to maximize the value of its assets and help BPA maintain competitive advantage in the marketplace, enable industry change and deliver on public responsibilities; as well as maintain financial strength through the management of lifecycle costs.

Infrastructure Investments

The FCRPS is one of the nation's largest nearly carbon-free power systems 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 continues to assess needed 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 signed two agreements to participate with two investor-owned utilities in the environmental work and permitting for a transmission project, the proposed Boardman-to-Hemingway 500kV line; the initial agreements were executed in FY 2012 and subsequently amended in FY 2018. Participation in this preliminary review keeps Bonneville's options open for serving its six southeast Idaho preference customers following the termination of legacy transmission service agreements. Bonneville has not made a decision to co-develop or purchase capacity in this project. On January 17, 2014, Public Law 113-76 was enacted, 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 continues to evaluate additional transmission investments and alternative non-wires solutions across the Pacific Northwest to improve reliability and support both load and renewable generation needs. Bonneville makes use of certain alternative capital financing mechanisms, 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 revenue and financial reserves financing some amount of either or both power and 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.

In 2019, Bonneville and a partner customer utility completed another innovative addition to system transmission capabilities that reflected Bonneville's strategic objective to meet transmission customer needs more efficiently and responsively. The customer utility, Lower Valley Energy, approached Bonneville with a proposal to finance and complete the Hooper Springs Transmission Project, planned for construction by Bonneville to continue service to the utility. Bonneville had completed project design and siting processes. With Lower Valley's assumption for the costs and final construction of the project, Bonneville was able to preserve Treasury borrowing authority and lease operating rights for service over the project.

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.

Senate Passage and Presidential Enactment of the Infrastructure Investment and Jobs Act

In November 2021, the Senate passed, and on November 15, 2021 the President signed/enacted the Infrastructure Investment and Jobs Act of 2021 into federal law (Public Laws 117-58). Section 40110 of the Act provides an additional $10 billion in additional permanent borrowing authority to Bonneville "…to assist in the financing of the construction, acquisition and replacement of the Federal Columbia River Power System and to implement the authority of the Administrator of the Bonneville Power Administration."

Revised Transmission Tariff

In 2019, Bonneville adopted a broad regional settlement of a new transmission tariff, which included terms and conditions that would apply to all of Bonneville's customers. The Tariff sets forth the process Bonneville may use to make future modifications to it and positions the region to take advantage of opportunities in the rapidly changing industry as well as further its objectives for improving the agency's commercial performance.

Bonneville opened its TC-22 tariff proceeding in December 2020 to propose modifications to its Tariff. The TC-22 tariff proceeding ran concurrently with the BP-22 rates proceeding and was completed in July 2021.

Grid Modernization

Bonneville continues a cross-agency grid modernization initiative. Bonneville's reliance on legacy systems and non-standard commercial practices are costly to maintain and have led to Bonneville being conservative in its power and transmission operations, planning, and marketing. Bonneville's strategic objective is to modernize federal power and transmission systems and their supporting technology. BPA's Grid Modernization initiative includes 35 projects designed to increase automation, improve accuracy and enhance visibility into how the federal power and transmission systems are functioning in real time, to ultimately enhance the optimization, resilience and reliability of the grid. The program includes upgrades to metering technology, outage management systems and other operational tools that improve visibility and accuracy in BPA's operations.

In September 2019, Bonneville signed a Western EIM Implementation Agreement with the California Independent System Operator to begin work on projects that need to be completed to allow BPA to start EIM operations. Bonneville consulted its customers and constituents in the implementation of its plan to join the EIM through regular public workshops. The rate and tariff issues were included in the TC-22 and BP-22 cases, which were completed in July 2021.

BPA made its final decision to join the EIM on Sept. 27, 2021, when it released the Final EIM Close-out Letter. The letter concluded the extensive assessment and public process conducted through all five phases of the EIM decision process. BPA will continue public engagement with customers and constituents as it prepares for market participation and after operations begin.

Integrating Regional Transmission Planning

Bonneville participates in the NorthernGrid regional planning organization. Bonneville's 2018-2023 Strategic Plan included the objective of pursuing a single planning region in order to consolidate regional planning efforts and reduce duplication. In support of that objective, Bonneville worked together with other entities to scope and develop a new, single regional planning organization. The result of that effort is NorthernGrid. NorthernGrid is an association of member utilities that offers a forum for coordination of regional transmission planning activities. Participation in NorthernGrid facilitates Bonneville's efforts to meet transmission customer needs efficiently and responsibly through coordination of transmission planning across a broad spectrum of participants and a larger footprint. It includes participation by both FERC-jurisdictional and non-jurisdictional entities.

Regional Resource Adequacy

Bonneville continues to forecast that it has adequate power resources to meet its long-term contractual obligations to supply its regional firm power customers' demands in all foreseeable conditions. Recent regional forecasts, however, have shown that the Pacific Northwest as a whole is nearing periods of times of the year when regional power supplies may not be adequate to meet demand. Bonneville is joining other regional utilities through the Northwest Power Pool to create a regional resource adequacy program. This effort, referred to as the Western Resource Adequacy Program (WRAP) initiative, seeks to develop a program that is based on voluntary participation with binding commitments to ensure that the region maintains a balance of supplies and demand in a very high percentage of likely conditions. On September 29, 2021, Bonneville committed to participating in the non-binding forward showing phase (Phase 3A) of the WRAP. Bonneville continues to engage with its customers and regional leaders to gain more information about the binding program and to develop a better understanding of the business case and principles for Bonneville's potential participation.

The Columbia River System Operations

In 2020, the U.S. Army Corps of Engineers, Bureau of Reclamation and Bonneville Power Administration completed an updated environmental impact statement (EIS) on the Columbia River System operations (CRSO) and configurations for 14 federal projects in the interior Columbia Basin. The last comprehensive system EIS was completed in 1997. In the updated CRSO EIS, the three agencies prepared a reasonable range of alternatives for long-term system operations and evaluated the potential environmental and socioeconomic impacts on a number of system purposes, including flood risk management, irrigation, power generation, navigation, fish and wildlife, cultural resources and recreation.

The on-going action that requires evaluation under NEPA is the long-term coordinated management of the System projects. An underlying need to which the co-lead agencies responded is reviewing and updating the management of the System, including evaluating measures to avoid, offset, or minimize impacts to resources affected by the management of the System in the context of new information and changed conditions in the Columbia River basin. In addition, the co-lead agencies responded to the Opinion and Order issued by the U.S. District Court for the District of Oregon such that this EIS evaluated how to ensure that the prospective management of the System is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat, including evaluating mitigation measures to address impacts to listed species.

The co-lead agencies released a draft EIS in February 2020, beginning a 45-day public comment period. Due to state and Federal measures to prevent the spread of the COVID-19 virus, public workshops that had been scheduled for comment were conducted by conference calls in March and April. The public comment period closed on April 13, 2020 and the co-lead agencies began analysis and response to over 58,000 comments received in that period. The co-lead agencies released a final record of decision in September 2020. Regional parties subsequently gave notice of their intention to challenge the CRSO EIS in court.

On Oct. 21, 2021, the Administration announced a short-term agreement on operations of the federal Columbia River System multiple purpose projects. The agreement pauses litigation over the selected alternative in the CRSO EIS Record of Decision.

Fish and Wildlife Program Overview

Bonneville remains committed to funding its share of the region's efforts to protect and mitigate Columbia River Basin fish and wildlife affected by the construction and operations of the FCRPS. To the extent possible, Bonneville integrates actions to protect species listed for protection under the Endangered Species Act (ESA) in response to relevant FCRPS Biological Opinions (BiOPs) with the Fish and Wildlife Program of the Northwest Power and Conservation Council. Implementation of these efforts involve significant collaboration with Pacific Northwest states, Indian tribes, local communities and other Federal agencies.

Included with the budget schedules section of this document is the current tabulation of Bonneville's fish and wildlife costs from FY 2012 through FY 2021.

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 and received authorization to negotiate with Canada on the Columbia River Treaty in October 2016. Government Affairs Canada notified the United States State Department in December 2017 of Canada's mandate to negotiate the Columbia River Treaty with the United States. Negotiations began in spring 2018 and continue to date. Both the U.S. Department of State and Canadian negotiators have discussed shared objectives and exchanged information on flood risk management, hydropower and ecosystem considerations.

Wildfire Risk Mitigation

In 2020, Bonneville released its Wildfire Mitigation Plan to reduce the risk of BPA transmission lines and other assets from sparking wildfires, and to protect BPA lines and assets from the threat of wildfires. The plan incorporated wildfire mitigation into Transmission Services' asset management planning strategy. In 2021, Bonneville updated the plan to add a public safety power shutoff (PSPS) procedure to further mitigate the risk of fire igniting from its transmission lines. PSPS is

proactive de-energization of transmission lines and facilities based on a number of factors, including extreme weather like high winds, other environmental conditions, and asset condition.

COVID-19 Response

Beginning in March 2020, Bonneville responded to the expanding COVID-19 pandemic by instructing all non-mission critical operating personnel to telework for an indefinite period of time. Bonneville suspended transmission construction projects and limited field operations to critical work. As local health directives permitted, Bonneville resumed construction and maintenance activities. In June 2020, Bonneville completed an expedited rate proceeding to suspend its Financial Reserve Policy surcharge to provide its public power preference customers about $3 million per month of rate relief for the remainder of FY 2020 and a total of $30 million for FY 2021. BPA has made a number of FCRPS self-financed expenditures to respond to the COVID-19 pandemic to keep our employees safe and reliably continue power and transmission operations.

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 the North American Electric Reliability Corporation (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 the NERC and 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 regional utility 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 of Engineers and Bureau of 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, part of the AWS-1 Federal Spectrum Relocation. 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 to relocate its operational telecommunication systems from the 1755-80 MHz radio spectrum bands. 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.

Bonneville has worked to complete its move off of 1755-80 MHz in two stages. First, Bonneville moved off of the old federal frequencies and "retuned" to new alternate federal frequencies in the band segment of 1780-1850 MHz which is above the highest frequency that is involved in the auction. Three hops federal frequency moves/retuning were completed as of June 7, 2017. The last remaining path, Happy Camp to Hilltop in northern California near the Oregon California Border, was moved/retuned, and as of July 31, 2018, Bonneville was off of the AWS-3 radio frequencies, meeting the commitment date promised to the NTIA. Bonneville still has additional work remaining to finish the construction related to the AWS-3 relocations. Bonneville will use the SRF relocation funds until the AWS-3 relocation work is completed and closed out. Second, Bonneville will complete its move of these four microwave hops to 7GHz-8GHz. This will take additional time because two of four hops require building construction to complete the work. AWS-3 funds will need to be retained by Bonneville at least through FY 2023 to complete construction of two communications buildings. This will accommodate the adjusted construction schedule with contingency for minor access issues due to weather or fire. Glass Butte was under construction during FY 2021 and is expected to be completed in August 2022. Then, microwave installations can then begin. Richland Franklin construction began in July 2021. The building construction occurred in FY 2021 with cutovers to the new radio equipment and retirement of old radio equipment likely concluding in FY 2022. Bonneville will assure that "comparable capability" has been achieved for these four AWS-3 relocated Bonneville operational telecommunication hops.

Educational Activities

Bonneville 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. As a regional leader in STEM education, Bonneville 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. Bonneville employees also serve as volunteer ambassadors, providing presentations, curricula, and activities to K-12 schools that enhance the learning experience for students and teachers, and extend awareness of the role of the region's hydroelectric system.

BPA is supporting a research and testing project funded primarily by the Department of Energy with participation from the state of Oregon. The project is PacWave wave energy testing facility, located offshore from BPA's power and transmission customer, Central Lincoln PUD. Modest amounts of energy will be captured from ocean waves and transformed to electricity at the facility. That electricity will be integrated into the BPA grid through the PUD and BPA will facilitate compensation for that energy and potentially purchase the kilowatt-hours. Generation may begin as early as late calendar year 2022.

Budget Estimates and Planning

This FY 2023 Budget proposes estimated accrued expenditures of $2,756 million for operating expenses, $61 million for Projects Funded in Advance (PFIA), $842 million for capital investments, and $734 million for capital transfers in FY 2023.

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.

This FY 2023 Budget includes capital and expense estimates based on final approved spending proposals from Bonneville's BP-22 Integrated Program Review (IPR). Capital investment 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.

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 2022-2027 revenue estimates in this budget, included in the Net Outlay formulation, reflect revised cost estimates, debt management strategies, and capital financing assumptions. 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 4(h)(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 Circular A-11.

The organization of Bonneville's FY 2023 Budget and these performance summaries reflect Bonneville's business services basis for its 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 Northwest Power 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 U.S. 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 $842 million in bonds to be issued and sold to the U.S. Treasury in FY 2023.

The near-term forecast of capital funding levels has undergone an extensive internal review as a result of Bonneville's development of asset management plans. These plans 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 asset planning process and Bonneville's standard operating budget process, this FY 2023 Budget includes updated capital investment levels for FY 2022 estimated at $805 million. Utilizing this review process helps Bonneville in its efforts as a participant in wholesale energy markets. Bonneville will continue to work with the Corps of Engineers and Bureau of Reclamation to optimize the mix of projects.

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 2023, total budget expense and capital obligations are estimated at $3,660 million. The

total program requirements of all Bonneville programs, including total obligations and $734 million of capital transfers, are estimated at $4,394 million for FY 2023.

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 the public to see all relevant FCRPS expense and capital spending level estimates in the same forum. In addition, Bonneville's IPR process allows the public to review and comment on Bonneville's 10-year capital forecasts. The IPR occurs every two years, prior to each Bonneville rate case, and provides the public an opportunity to review and comment on Bonneville's program level cost estimates prior to being set for inclusion in rate cases. BPA conducted the BP-22 IPR, which reviewed spending plans for the FY 2022 and FY 2023 rate period during the summer of 2020. Bonneville initiated the BP-22 IPR with the objective to be consistent with the 2018 Strategic Direction, which included holding costs at or below the level of inflation through 2028. Bonneville issued the closeout report for the BP-22 IPR in September 2020.

The final spending levels in the BP-22 IPR reflect shifts in how BPA views and plans its work, using program plans to show how all of the organizations in BPA support the critical commercial, operations and asset management functions and performance objectives.

Bonneville concluded the BP-22 Integrated Program Review 2 (IPR 2) public process at the end of April 2021. The proposed adjustments to the costs (spending levels) the agency will recover in its BP-22 rates include a two-year total reduction of $53 million to the Transmission capital and facilities program for the BP-22 rate period. In addition, Bonneville will include a two-year total reduction in Transmission capital of $73 million for rate-setting purposes only, similar to the "lapse factor" concept as used for the 2010 and 2012 rate cases. Together, these adjustments reduce for ratemaking purposes the two-year transmission capital program by approximately $126 million. It was also concluded that Bonneville's projected spending for its Fish and Wildlife (F&W) program is sufficient to meet the agency's projected funding obligations over the rate period.

Bonneville is focused on institutionalizing operational excellence – continuous improvement that produces more efficient and effective ways to deliver on Bonneville's mission and vision. Bonneville's Business Transformation Office (BTO) ensures that Bonneville's transformational initiatives, including its Key Strategic Initiatives (KSIs), are executed in the most efficient manner from a time, cost and resource perspective. Bonneville currently focuses on Grid Modernization as its single KSI. Grid Modernization will advance the way BPA markets and operates the federal power and transmission systems, so that Bonneville can benefit from new technology and emerging market opportunities. This work is critical to ensuring BPA's long-term commercial success and competitiveness.

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 electric 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.

FCRPS Cost Allocations

The FY 2021 Energy and Water and Development Act included report language requesting that Bonneville, the Corps of Engineers, and Reclamation provide quarterly reports on their work to resolve policy differences among the agencies for the allocation of costs for multi-purpose projects of the Federal Columbia River Power System. This followed language in the House subcommittee report in the FY 2020 Energy and Water Development Appropriations Act noting that the allocations of cost sharing among the authorized project purposes can be decades old and requesting that the three agencies return an outline of how cost allocations may be updated. The three agencies provided the subcommittee with an outline of cost allocation methods and authorities in June 2020, noting specific policy differences.

Power Services - Capital
Funding Schedule by Activity

Funding ($K)

	FY 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate	FY 2023 vs FY 2022 $	FY 2023 vs FY 2022 %
Power Services – Capital					
Associated Project Costs	201,575	264,120	281,260	17,140	6.5%
Fish & Wildlife	41,897	43,000	43,000	0	0.0%
Total, Power Services – Capital	**243,473**	**307,120**	**324,260**	**17,140**	**5.6%**

Outyears ($K)

	FY 2023 Estimate	FY 2024 Estimate	FY 2025 Estimate	FY 2026 Estimate	FY 2027 Estimate
Power Services – Capital					
Associated Project Costs	281,260	300,000	306,850	313,647	320,466
Fish & Wildlife	43,000	30,000	25,000	15,000	15,000
Total, Power Services - Capital	**324,260**	**330,000**	**331,850**	**328,647**	**335,466**

Program Overview

Associated Project Costs provide for direct funding of additions, improvements, and replacements of existing Corps of Engineers and Bureau of Reclamation hydroelectric projects in the Pacific Northwest. These FCRPS hydro projects produce a large portion of the 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 supply. 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 of Engineers and Bureau of 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 of Engineers and Bureau of Reclamation appropriations for power-related investments.

Since the beginning of Direct Funding in 1997, BPA has invested over $2 Billion in Direct Capital in the FCRPS with the goal of maximizing system value for the region and its stakeholders. Ongoing analysis with its operating partners, the Army Corps of Engineers and the Bureau of Reclamation, has identified ongoing investment needs for the foreseeable future in order to maintain the health of the hydro system.

These planned investments, included in the FY 2023 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 wholesale power market to serve growing Pacific Northwest electricity needs of BPA customers.

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 federal hydrosystem, 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 and associated habitat maintenance. These capital projects support both Northwest Power Act and ESA priorities and are integrated with the Pacific Northwest Electric Power Planning Council's (Council) Columbia Basin Fish and Wildlife Program (Council's Program) in order to efficiently meet Bonneville's responsibilities under the Northwest Power Act and other statutes to mitigate federal hydrosystem impacts to Columbia River Basin fish and wildlife.

Bonneville implements such projects consistent with the Council's Program and the purposes of the Northwest Power Act. Under the Northwest Power Act, the Council must develop a program that protects, mitigates, and enhances Columbia River Basin fish and wildlife affected by the federal and non-federal hydroelectric projects in the basin while assuring the Pacific Northwest an adequate, efficient, economical, and reliable power supply. The Program, the Columbia River System BiOps, 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.

Most projects recommended by the Council also undergo independent scientific review as directed by the 1996 Energy and Water Development 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.

To comply with the ESA, Bonneville funds capital investment actions to avoid jeopardizing listed species. Guidance for those actions is found in the current BiOps issued by NOAA and the USFWS.

Under these collective BiOps Bonneville, the Corps of Engineers and Reclamation (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 the construction of 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.

In October 2018, Bonneville and its federal partners Corps of Engineers and Bureau of Reclamation signed extension agreements with current Accords partners, namely certain states and tribes, to extend the Columbia Basin Fish Accords (2018 Fish Accord extensions). In 2020, Bonneville, the Corps of Engineers, the Bureau of Reclamation and state and tribal parties signed new amendments to extend the 2018 Columbia Basin Fish Accord Extensions to September 30, 2022. The extension agreements commit nearly $450 million for fish and wildlife protection and mitigation, which is likely to result in future expenses or regulatory assets.

As noted above, BiOps, 2018 Fish Accord extensions, and wildlife settlement commitments are integrated along with other projects and implemented through the Council Program under the Northwest Power Act. They provide the basis for Bonneville's planned capital investment for fish and wildlife.

Accomplishments

- The BP-22 - Draft Record of Decision (ROD) was issued in June 2021 and the final ROD was issued in late July.
- 45,134 acre-feet/year of water protected & conserved
- 6,242 acres improved & protected in riparian areas
- 29,545 acres protected by purchase or lease
- 258 cubic feet per second (cfs) of water flow conserved & protected
- 191 miles of stream improved & protected in riparian areas
- 129 miles of habitat accessed
- Completed Generator Coolers Installation at Bonneville Dam
- Completed Auditorium & Project Office Roofs Replacement at Bonneville
- Completed Powerhouse Roof Replacement at John Day
- Completed Transformers Replacement at The Dalles
- Completed GDACS installation at Chief Joseph
- Completed Transformer 3 Rehabilitation at Libby Dam
- Completed Station Service Breakers Replacement at Ice Harbor
- Completed Main Unit Lubricating Oil Replacement on the Lower Snake Dams
- Completed Drainage System Oil Water Separator at McNary
- Completed Thrust Bearing Repair on Units 13 & 14 at McNary

Explanation of Changes

Bonneville's budget includes $324.3 million in FY 2023 for Power Services capital, which is a 5.6 percent increase from the FY 2022 forecasted level. The FY 2023 level reflects additional work efforts while continuing to align with BPA's strategic asset management plans which focus on the need for investment in the hydroelectric system assets and investments necessary to implement the BiOps, 2018 Fish Accord extensions, and other Columbia Basin Fish and Wildlife activities.

The FY 2023 budget increases the levels for Associated Projects ($17.1 million) and maintains the funding level for Fish & Wildlife, relative to FY 2022.

Strategic Management

Bonneville markets available electric power to meet requested load 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 of Engineers, Bureau of 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 of Engineers and Bureau of 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 strategies listed above:

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 of Engineers and Bureau of Reclamation to reach mutual agreement on budgeting and scheduling 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 of Engineers and Bureau of Reclamation project purposes.

Corps of Engineers Projects

($K)

FY 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
168,700	216,296	229,286

Bonneville Dam:

- FY 2021. Completed Generator Coolers replacement, Auditorium and Project Office Roofs replacement. Continued Digital Governors replacement, headgate repair pit rehabilitation, station service reconfiguration, control room fire protection upgrades, oil water separator improvements, tailrace gantry crane rehabilitation, and generator fire protection projects. Began ice and trash sluice gate replacement, HVAC replacement, Spillway Cranes replacement, trashracks rehabilitation and replacement and Bradford Island Service Building PRQ Switchgear Upgrade.
- FY 2022. Complete control room fire protection upgrades. Continue oil water separator improvements, station service reconfiguration, tailrace gantry crane rehabilitation, generator fire protection projects, Ice and Trash Sluice Gate replacement, HVAC replacement, Spillway Cranes replacement and trashracks rehabilitation and replacement, and Bradford Island Service Building PRQ Switchgear Upgrade. Begin Main Unit Breaker replacement and preferred AC/DC improvement.
- FY 2023. Continue oil water separator improvements, station service reconfiguration, tailrace gantry crane rehabilitation, generator fire protection projects, Ice and Trash Sluice Gate replacement, HVAC replacement, Spillway Cranes replacement and trashracks rehabilitation and replacement, Bradford Island Service Building PRQ Switchgear Upgrade, main unit breaker replacement and preferred AC/DC improvement.

John Day Dam:

- FY 2021. Completed Powerhouse Roof replacement. Continued heating, ventilating, air conditioning (HVAC) system upgrade, SQ board replacement, BLH Turbine Hub Upgrades and fixed blade conversions, Control Room Fire Protection Upgrades, and trash rack crane replacement. Began trashracks rehabilitation and replacement and Submerged Traveling Screen (STS) Crane replacement.
- FY 2022. Complete Emergency Gantry Crane replacement, SQ board replacement and trash rack crane replacement. Continue HVAC system upgrade, BLH Turbine Hub Upgrades and fixed blade conversions, STS Crane replacement and trashracks rehabilitation and replacement.
- FY 2023. Continue HVAC system upgrade, BLH Turbine Hub Upgrades and fixed blade conversions, STS Crane replacement and trashracks rehabilitation and replacement.

The Dalles Dam:

- FY 2021. Completed Ice and Trash Sluiceway and transformer replacements. Continued Fish Unit Breaker replacement, Gate Repair Pit Upgrades, Emergency gantry crane rehabilitation and Intake and crane rails replacement.
- FY 2022. Complete Fish Unit Breaker replacement and Gate Repair Pit Upgrades. Continue emergency gantry crane rehabilitation and Intake and crane rails replacement.

- FY 2023. Complete Emergency Gantry Crane rehabilitation. Continue Intake and Crane rails replacement. Begin Exciters replacement.

Willamette Plants:

- FY 2021. Completed Oil Water Separator replacement at Cougar. Continued Spillway Gate rehabilitation at Detroit and Cougar, Intake Gantry Crane at Dexter, Main Unit Breakers and Electrical Reliability Upgrades at Hills Creek and Green Peter and Electrical Reliability Upgrades at Foster and Dexter. Began Transformers replacement at Detroit.
- FY 2022. Complete Spillway Gate rehabilitation at Detroit, Intake Gantry Crane at Dexter and Oil Water Separator at Foster. Continue Spillway Gate rehabilitation at Cougar, Main Unit Breakers and Electrical Reliability Upgrades at Foster, Hills Creek and Green Peter. Begin Bridge Crane replacement at Green Peter and Butterfly Valves at Cougar.
- FY 2023. Complete Butterfly Valves and Spillway Gates at Cougar. Continue Spillway Gate rehabilitation at Cougar, Bridge Crane replacement at Green Peter, Main Unit Breakers and Electrical Reliability Upgrades at Foster, Hills Creek and Green Peter.

Albeni Falls Dam:

- FY 2021. Continued main unit transformers replacement.
- FY 2022. Continue installation of main unit transformers.
- FY 2023. Complete Main Unit Transformers installation. Begin Bridge Crane rehabilitation and HVAC replacement.

Libby Dam:

- FY 2021. Completed Transformer 3 rehabilitation. Continued system control console replacement and DC Boards and Breakers replacement. Began powerhouse gantry crane rehabilitation.
- FY 2022. Complete powerhouse gantry crane rehabilitation. Continue system control console replacement, and DC boards and breakers system replacement. Begin left abutment rock slide stabilization.
- FY 2023. Complete DC Boards and Breakers System replacement. Continue system control console replacement and left abutment rock slide stabilization Begin 6th Unit Installation.

Chief Joseph Dam:

- FY 2021. Completed GDACS replacement and Control Room SCC Board replacement. Continued Intake Gantry Crane replacement. Began Upgrades for Station Service Units.
- FY 2022. Complete intake gantry crane rehabilitation. Continue upgrades for station service units. Begin Units 1-16 Generator Rewinds, Freight Elevator rehabilitation and Powerhouse Elevator rehabilitation.
- FY 2023. Continue upgrades for station service units, Units 1-16 Generator Rewinds, Freight Elevator rehabilitation and Powerhouse Elevator rehabilitation. Begin Units 1-16 Exciters replacement, Sump Pump and Controls replacement and Power Bus replacement.

Dworshak Dam

- FY 2021. Completed Telephone Switch and System Upgrades. Continued RO valve upgrade.
- FY 2022. Complete RO valve upgrade.
- FY 2023. No planned capital projects.

McNary Dam

- FY 2021. Completed Drainage System Oil Water Separator and Main Unit 13-15 Thrust Bearing Repair. Continued Digital Governors Upgrade, Exciters Upgrade, Governors rehabilitation, headgate system rehabilitation, Intake Gantry Crane rehabilitation, iso-phase and HV Bus replacement, Powerhouse Control System Upgrades, Station Service Turbine Rehabilitation, Tailrace Gantry Crane 4 replacement, and Turbine Design and Replacement.
- FY 2022. Complete Tailrace Gantry Crane 4 replacement. Continue Digital Governors Upgrade, Exciters Upgrade, Governors rehabilitation, headgate System rehabilitation, Intake Gantry Crane rehabilitation, iso-Phase and HV Bus

replacement, Powerhouse Control System Upgrades, Station Service Turbine Rehabilitation, and Turbine Design and Replacement.
- FY 2023. Continue digital governors upgrade, exciters upgrade, governors rehabilitation, headgate system rehabilitation, intake gantry crane rehabilitation, iso-phase and HV Bus replacement, powerhouse control system upgrades, station service turbine rehabilitation, and turbine design and replacement.

Ice Harbor Dam
- FY 2021. Completed XJO station service breaker replacements. Continued units 1-3 turbine runner replacements and stator winding replacements and intake gantry crane controls upgrade.
- FY 2022. Complete intake gantry crane controls upgrade. Continue units 1-3 turbine runner replacements and stator winding replacements. Begin Intake Gate Hydraulic System Upgrades.
- FY 2023. Continue units 1-3 turbine runner replacements, stator winding replacements, Intake gate hydraulic system upgrades. Begin transformers 1-3 replacement.

Little Goose Dam
- FY 2021. Completed Main unit lubricating oil replacement. Continued headgate Repair Pit upgrade, Intake Gate rehabilitation, iso-Phase Bus Upgrades, Unit 5 Rotor Frame and Bracket Repair, and Powerhouse Roof Replacement.
- FY 2022. Complete Powerhouse Roof Replacement. Continue headgate Repair Pit upgrade, Intake Gate rehabilitation and iso-phase Bus Upgrades. Begin DC System and LV Switchgear Upgrade.
- FY 2023. Complete Unit 5 Rotor Frame and Bracket Repair, Continue DC system and LV switchgear upgrade, headgate Repair Pit Upgrade, Intake Gate rehabilitation, and iso-Phase Bus Upgrades.

Lower Granite Dam
- FY 2021. Completed Main Unit Lubricating Oil replacement. Continued DC system and LV switchgear upgrade, iso-phase bus and housing upgrade, and Main Unit 2 Blade Sleeve Upgrade and rehabilitation.
- FY 2022. Complete isophase bus and housing upgrade. Continue DC system and LV switchgear upgrade and Main Unit 2 Blade Sleeve Upgrade and rehabilitation. Begin trashrake crane and rake replacement.
- FY 2023. Complete DC System and LV Switchgear Upgrade, trashrake crane and rake upgrade and Main Unit 2 Blade Sleeve Upgrade and rehabilitation. Continue trashrake crane and rake replacement.

Lower Monumental Dam
- FY 2021. Completed Main Unit Lubricating Oil replacement. Continue iso-phase bus upgrades and trash rake crane and rake upgrades.
- FY 2022. Complete iso-phase bus upgrades. Continue trashrake crane and rake upgrades. Begin DC system and LV switchgear upgrades and intake gate rehabilitation.
- FY 2023. Complete Trash Rake Crane and Rake upgrades. Continue DC system and LV switchgear upgrades, and intake gate rehabilitation.

Bureau of Reclamation Projects
($K)

FY 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
32,876	47,824	51,974

Grand Coulee Dam

- FY 2021. Continued G11-18 Transformers Replacement, Block 31 elevator replacement, LPH/RPH Bridge Crane replacement, Station Service Compressed Air System replacement, TPP Crane Controls Upgrade, and Firehouse construction.
- FY 2022. Continue G11-18 Transformers Replacement, Block 31 elevator replacement, LPH/RPH Bridge Crane replacement, Station Service Compressed Air System replacement, TPP Crane Controls Upgrade, and Firehouse construction. Begin G1-18 iso-Phase replacement, Inclined Elevator rehabilitation and Radio System Modernization.
- FY 2023. Complete LPH/RPH Bridge Crane replacement and Station Service Compressed Air System replacement. Continue G11-18 Transformers Replacement, Block 31 elevator replacement, TPP Crane Controls Upgrade, and Firehouse construction. Continue G1-18 iso-Phase replacement and Inclined Elevator rehabilitation and Radio System Modernization.

Keys Pump Generating Plant

- FY 2021. Continued P1-P6 Coaster Gate replacement, P1-P6 exciters, relays and unit controls, PG7-12 governors, exciters, relays and unit controls and phase reversal switch replacement.
- FY 2022. Complete P1-P6 Coaster Gate replacement. Continue P1-P6 exciters, relays and unit controls, PG7-12 governors, exciters, relays and unit controls and phase reversal switch replacement.
- FY 2023. Continue P1-P6 exciters, relays and unit controls, PG7-12 governors, exciters, relays and unit controls and phase reversal switch replacement.

Hungry Horse Dam

- FY 2021. Continued SCADA replacement, powerplant crane controls, radio system modernization, disconnect switches replacement and main unit transformer fire protection system replacement.
- FY 2022. Complete SCADA replacement and main unit transformer fire protection system replacement. Continue powerplant crane controls and radio system modernization. Begin exciters replacement.
- FY 2023. Continue exciters replacement, powerplant crane controls and radio system modernization.

Chandler Dam

- FY 2021. No planned capital projects.
- FY 2022. Begin Generator Units 1 and 2 Modernization.
- FY 2023. Continue Generator Units 1 and 2 Modernization.

Palisades Dam

- FY 2021. Continued switchyard modernization. Began Hollow Jet Valve Replacement.
- FY 2022. Complete switchyard modernization. Continue Hollow Jet Valve Replacement.
- FY 2023. Complete Hollow Jet Valve Replacement.

Green Springs Dam

- FY 2021. No planned capital projects.
- FY 2022. No planned capital projects.
- FY 2023. No planned capital projects.

Black Canyon Dam

- FY 2021. No planned capital projects.
- FY 2022. No planned capital projects.
- FY 2023. Begin Trash Rake System Installation.

Anderson Ranch Dam

- FY 2021. No capital projects.
- FY 2022. Begin turbine runner replacement.
- FY 2023. Continue turbine runner replacement.

Roza Dam

- FY 2021. Continued switchyard rehabilitation and breaker upgrade.
- FY 2022. Complete switchyard rehabilitation and breaker upgrade.
- FY 2023. No planned capital projects.

Minidoka Dam

- FY 2021. Continued microwave system backbone modernization.
- FY 2022. Complete microwave system backbone modernization.
- FY 2023. No planned capital projects.

Fish & Wildlife
($K)

FY 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
41,897	43,000	43,000

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 2018 Fish Accord extensions, 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 compliance 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 types 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 but not limited to 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 fish and wildlife habitat and provide credit to Bonneville, such as 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.

New Project listing for which Bonneville is requesting expenditure authority:

- Colville Tribes Resident Fish Hatchery Expansion: Constructed to produce 50,000 lbs. of trout annually, the facility is unable to meet all its annual spring stocking goals for Buffalo, North Twin, South Twin, and Rufus Woods lakes as identified in the 2020 Fisheries Management Plan. In order to meet annual stocking goals for these four lakes, the Hatchery began contracting with a commercial net pen operator in 2010 to rear a component of the hatchery's Rainbow Trout in net pens located in Lake Rufus Woods. Poor net pen water quality conditions have consistently contributed to annual mortality rates between 33-50%. The Colville Tribe is exploring the feasibility of expanding on-site hatchery rearing vessels to increase on-site production and reduce net pen rearing. The expansion would allow the hatchery to utilize clean, cool, pathogen free water and intended to increase trout survival, helping meet stocking objectives identified in the Management Plan. In 2021,

the Colville Tribe hired a licensed engineering firm to complete a Conceptual Design and construction cost estimates for a facility capable of producing 25,000 triploid Rainbow Trout at a maximum size of 2 lbs. each. The documents produced will provide the Colville Tribes Fish and Wildlife Department a Conceptual Plan and estimation of construction costs that will assist in determining if the project should continue to the next phase. Design for the project has not begun and expected start date is yet to be determined.

- Chief Joseph Hatchery Water Quality Project: The Chief Joseph Hatchery was a 2008 Accord commitment with the Confederated Tribe of the Colville Reservation, and construction of Chief Joseph Hatchery began in fiscal year 2010, with fish production starting in 2013. The Chief Joseph Hatchery operates to restore and enhance depleted runs of spring and summer/fall salmon Chinook salmon for release into the Columbia and Okanogan rivers. Current infrastructure/operational constraints are preventing the hatchery from achieving full production of 2.9 million Chinook smolts, and BPA and Colville staff are developing a coordinated approach and plan to address water temperature and production issues at the hatchery. Design for the project has not begun and expected start date is yet to be determined.

- Umatilla Hatchery Facility: The Northwest Power and Conservation Council in 1990 recommended that Bonneville construct the Umatilla Hatchery, just east of the town of Irrigon, Oregon, to mitigate for the loss of salmon and steelhead habitat and migration blockage resulting from the Columbia River System dams. Umatilla River anadromous fish had been largely extirpated in the early 1900s by irrigation dams, prior to construction of the Columbia River System dams. Current hatchery production includes 800,000 spring Chinook, 600,000 fall Chinook, and 150,000 summer steelhead. Construction of the Umatilla Hatchery cost $14 million and was complete in 1991. Bonneville funds the Oregon Department of Fish and Wildlife to operate the hatchery and the Confederated Tribes of the Umatilla Indian Reservation to operate acclimation facilities supporting the hatchery. The available water supply at the hatchery never met expected production levels, and water supply has continued to deteriorate over time. To preserve and improve fish production at the Umatilla Hatchery, Bonneville is exploring options to address the water supply issue and is in the early evaluation phase. It appears costs will exceed the statutory threshold of $2,500,000 and have an estimated life of 15 years or more, thus triggering the need to obtain expenditure authority from Congress, prior to commencing construction, as required by 16 U.S.C. 839b(h)(10)(B), which was amended by section 307 of the FY2012 Consolidated Appropriations Act, P.L. 112–74 125 STAT. 877. (Dec. 23, 2011). Congress originally authorized BPA expenditure authority for construction of the Umatilla Hatchery under P.L. 98-360, 98 STAT. 403, 415 (July 16, 1984).).

New construction-related habitat restoration projects that require capital funds in FY 2022 include the following:

- Svensen Island: The Svensen Island Restoration Project will reconnect the 320 acre island, east of Astoria, Oregon, directly to the mainstream Columbia River to increase ecological function and provide refuge and rearing capacity for out-migrating juvenile salmon and steelhead. Specifically, the project will remove and lower approximately 1.5 miles of existing levee; remove approximately 100 pile dikes on the northern side of the island, to provide unobstructed access to 40 acres of re-connected and newly excavated floodplain and tributary habitats for salmonids and lamprey. The Columbia Restoration Group is leading the project, in partnership with the Columbia Land Trust. This estuary project ranks high on the list of priorities in the estuary and will help to meet the responsibilities of the 2020 NMFS BiOp. Capital construction is scheduled to begin in FY 2022 and will last one year.

- Catherine Creek/Hall Ranch: Project is intended to improve off channel rearing habitat complexity for Chinook, steelhead, and bull trout by restoring dynamic channel geomorphology and habitat forming processes in Catherine Creek and Milk Creek. It will improve floodplain connectivity through removal and relocation of one mile of State Highway 203 and re-connecting 50 acres of historic Catherine Creek floodplain and channel network. The request is for a project-funding match of $3,294,616 from Bonneville against additional project investment from other Federal and State partners for a total projected project cost of $5,994,616. This project has multiple coordination points, requires an environmental impact statement and the environmental compliance process may impact to implementation timeframes where the project is currently expected to start construction in FY 2022.

The Further Consolidated Appropriations Act, 2019 (Public Law 116-94) provided Expenditure Authority for the following project:

- Steigerwald Project: The Steigerwald Floodplain Restoration Project is a collaborative project that will reconfigure the Port of Camas-Washougal's (Port) existing Columbia River levee system to reduce flood risk, reconnect 960 acres of Columbia River floodplain, and increase ecological function at the Steigerwald Lake National Wildlife Refuge. Specifically, the project will construct 1.6 miles of setback levee; completely remove 2.2 miles of existing levee; provide unobstructed access to floodplain and tributary habitats for salmonids and lamprey; and greatly reduce flood risk to the Port's Industrial Park and City of Washougal's wastewater treatment plant, which serves 15,000 residents. Bonneville is working with the lower Columbia Estuary Partnership, which is leading the project. The project will provide seven survival benefit units (~15% of the Action Agencies' total goal in the estuary). Other partners include the Port, USFWS, Washington State Department of Transportation, City of Washougal, and several private landowners. Capital construction began in FY 2020 and will last three years.

The Consolidated Appropriations Act, 2016 (Public Law 114-113) provided Expenditure Authority for the following projects:

- Shoshone Paiute Trout Hatchery: The Shoshone Paiute Tribes of the Duck Valley Reservation, Idaho, have proposed that Bonneville fund the purchase or construction of a trout hatchery. The Tribes would own and operate the hatchery to produce trout to stock the Duck Valley Reservation reservoirs. The hatchery would meet contemporary aquaculture standards and achieve fish production goals. The Tribes believe they can reduce federal reservoir stocking costs, some of which Bonneville currently pays on an annual basis. Design for the project has not begun and the expected start date is yet to be determined.

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

- John Day Reprogramming and Construction: The Columbia River Inter-Tribal Fish Commission (CRITFC) has proposed this project in order to balance the upriver and downriver salmon hatchery production mitigating for the effects of John Day and The Dalles Dams within the Zone 6 area in the mainstream Columbia River from the base of McNary Dam downstream to The Dalles Dam. The Tribes, the Corps of Engineers, and Bonneville have agreed that the project will be sited at Prosser Hatchery. BPA will fund the construction of four circular tanks utilizing water reuse systems and the Corps of Engineers will take over the operations and maintenance for the new infrastructure which accommodates the reprogramming of hatchery fish. Project expected to begin design in FY 2022.

- Columbia River Basin White Sturgeon Hatchery: This project, proposed by the CRITFC, will mitigate for the decline of the white sturgeon population caused by consistently poor recruitment upstream of Bonneville Dam. Bonneville would fund the construction of a new facility, or the acquisition of an existing facility, to produce 15,000 - 30,000 yearling white sturgeons per year. The final project may include the collection, holding and spawning of broodstock, the rearing of wild-spawned juveniles, and the acclimation of juveniles prior to release. The site of the Yakama Nation's existing Marion Drain Sturgeon Hatchery near Toppenish, Washington has been proposed as a location. The project team is working on additional analyses to respond to Council comments and to begin the environmental review process. Design for the project has not begun and the expected start date has yet to be determined.

- Kelt Reconditioning and Reproductive Success Evaluation Research: CRITFC is proposing a facility to recondition female steelhead (kelts) after they have spawned. The fish will be held and fed until they have re-matured 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, at the Nez Perce Tribal Hatchery in Idaho. Pursuant to the 2008 FCRPS BiOp and Supplemental FCRPS BiOps issued in 2010 and 2014, and consistent with 2020 NMFS CRS BiOp, 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

achieve a targeted six-percent increase in the number of returning Snake River B-run steelhead spawners to Lower Granite Dam. The Master Plan for the facility is currently in the second of the Council's amended, shortened, Artificial Production Three-Step Review Process and design has progressed to 60%.

Ongoing Projects (Expenditure Authority previously received):

- Crystal Springs Shoshone-Bannock Hatchery Facilities: The Tribes' proposal, originally named Crystal Springs Hatchery, included production of spring/summer Chinook and Yellowstone cutthroat trout, a resident fish, at the Crystal Springs location near the American Falls Reservoir in southern Idaho. In 2019, water quality limitations were confirmed rendering the location unsuitable for anadromous production and an alternative planning approach was initiated. In an effort to maintain production goals, the Crystal Springs location remains the proposed site for a rearing and out-planting facility for up to 30,000 trout to be produced annually for a put and take Tribal fishery. The anadromous facility may be sited in the Panther Creek watershed with the goal of increasing the abundance of spring/summer Chinook returns to this drainage. The facilities are sponsored by the Shoshone-Bannock Tribes, who are expected to operate and manage them once complete.

- Klickitat Production Expansion: In 2008, the Klickitat River Master Plan was submitted by the Yakama Nation, reviewed by the Independent Science Review Panel, recommended with comments by the Council, and conditionally approved by Bonneville. The plan's original goals were to protect and increase naturally producing populations of spring Chinook and steelhead, localize brood collection of harvest stocks (fall Chinook and coho), while protecting the biological integrity and the genetic diversity of indigenous fish stocks in the sub-basin. A component of the Master Plan was implemented in 2009, including the completion of upgrades to Lyle Falls Fishway and Castile Falls Fishway, and the construction of a new bridge at the Klickitat Hatchery. In July 2009, a new Klickitat Hatchery Complex EIS was initiated to 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 in July 2012 that provided updates to their fish management plans. Bonneville suspended the NEPA process while the Yakama Nation refined its proposal in response to site and budgetary limitations and comments on the draft EIS. Since that time, the National Marine Fisheries Service (NMFS) has completed its Mitchell Act EIS and BiOp, helping inform its funding responsibilities in the sub-basin. Bonneville negotiated a new scope of work with the Yakama Nation, and a revised Master Plan was submitted to the Council in 2017 and approved in 2018. The new scope of work targets design and construction activities for the expansion of the current spring Chinook program only, from 600,000 to 800,000 smolt, and converting to a wild broodstock collection program, as well as general water supply and water abatement upgrades. Bonneville has initiated a new EIS process and construction will occur after Bonneville issues a NEPA ROD and alongside a three-way operations and maintenance agreement which affirms that NMFS will remain responsible for providing funding post-construction. Project design was initiated in Summer of 2021.

- 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. PacifiCorps' 2010 demolition of its Powerdale Dam and the associated fish trapping facility 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 of the 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 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 is intended to re-establish naturally reproducing coho salmon populations in the Wenatchee River and Methow River sub-basins at biologically sustainable levels that also provide significant harvests. 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.

- Walla Walla Hatchery: The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) proposed the construction of the Walla Walla Hatchery. The Tribes will 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, and a draft EIS was completed in September 2016. However, due to budget overruns, the project was reconfigured. Design and construction were successfully rebid. Construction started in fall 2019, with completion expected in June 2022. The facility will hold, spawn, incubate, and rear spring Chinook on the South Fork Walla Walla River near Milton-Freewater, Oregon.

- Yakima Melvin R. Sampson Coho Facility: This hatchery was proposed by the Confederated Tribes and Bands of the Yakama Nation and is presented in the Yakima River Subbasin Summer and Fall Run Chinook and Coho Salmon Hatchery Master Plan. The Yakama Nation will 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. Bonneville published a final EIS on November 6, 2017, and a Record of Decision April 9, 2018, with construction beginning August 2018. Facility construction was finished during fall of 2021.

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 ($K)

FY 2022 Estimate	FY 2023 Estimate	Explanation of Changes FY 2023 vs FY 2022 Estimate
Power Services – Capital $307,120	**$324,260**	**$17,140/5.6%**
Associated Projects $264,120 Milestones: • Complete control room fire protection upgrades at Bonneville Dam. • Complete Emergency Gantry Crane replacement, SQ board replacement and trash rack crane replacement at John Day Dam. • Complete Fish Unit Breaker replacement and Gate Repair Pit Upgrades at The Dalles Dam. • Complete Spillway Gate rehabilitation at Detroit, Intake Gantry Crane at Dexter and Oil Water Separator at Foster. • Complete powerhouse gantry crane rehabilitation at Libby Dam. • Complete intake gantry crane rehabilitation at Chief Joseph Dam. • Complete RO valve upgrade at Dworshak Dam. • Complete Tailrace Gantry Crane 4 replacement at McNary Dam. • Complete intake gantry crane controls upgrade at Ice Harbor Dam. • Complete Powerhouse Roof Replacement at Little Goose Dam. • Complete iso-phase bus and housing upgrade at Lower Granite Dam. • Complete iso-phase bus upgrades at Lower Monumental Dam. • Complete P1-P6 Coaster Gate replacement at Keys Pump Generating Plant.	**$281,260** Milestones: • Complete Emergency Gantry Crane rehabilitation at The Dalles Dam. • Complete Butterfly Valves and Spillway Gates at Cougar Dam. • Complete Main Unit Transformers installation at Albeni Falls Dam. • Complete DC Boards and Breakers System replacement at Libby Dam. • Complete Unit 5 Rotor Frame and Bracket Repair at Little Goose Dam. • Complete DC System and LV Switchgear Upgrade, trashrake crane and rake upgrade and Main Unit 2 Blade Sleeve Upgrade and rehabilitation at Lower Granite Dam. • Complete Trash Rake Crane and Rake upgrades at Lower Monumental Dam. • Complete LPH/RPH Bridge Crane replacement and Station Service Compressed Air System replacement at Grand Coulee Dam. • Complete Hollow Jet Valve Replacement at Palisades Dam.	**$17,140/6.5%** • The increase reflects additional funding needs for investment in the hydroelectric system assets.

FY 2022 Estimate	FY 2023 Estimate	Explanation of Changes FY 2023 vs FY 2022 Estimate
• Complete SCADA replacement and main unit transformer fire protection system replacement at Hungry Horse Dam. • Complete switchyard modernization at Palisades Dam. • Complete switchyard rehabilitation and breaker upgrade at Roza Dam. • Complete microwave system backbone modernization at Minidoka Dam.		
Fish & Wildlife $43,000 Milestones: • Continue implementation of the Program, BiOps and 2018 Fish Accord extension.	**$43,000** Milestones: • Continue implementation of the Program, BiOps and 2018 Fish Accord extension.	**$0/0.0%** • Fish & Wildlife will continue long-term, planned effort to reshape funding necessary to implement the BiOps, 2018 Fish Accord extension, Columbia River Basin Fish and Wildlife activities.

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

	FY 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate	FY 2023 vs FY 2022 $	FY 2023 vs FY 2022 %
Transmission Services – Capital					
Main Grid	3,137	12,583	6,219	-6,364	-50.6%
Area & Customer Services	53,030	48,562	71,520	22,958	47.3%
Upgrades & Additions	74,154	76,860	113,430	36,570	47.6%
System Replacements	217,271	337,765	305,991	-31,774	-9.4%
Projects Funded in Advance	63,292	55,542	61,166	5,625	10.1%
Total, Transmission Services - Capital	**410,885**	**531,312**	**558,327**	**27,015**	**5.1%**

Outyears ($K)

	FY 2023 Estimate	FY 2024 Estimate	FY 2025 Estimate	FY 2026 Estimate	FY 2027 Estimate
Transmission Services - Capital					
Main Grid	6,219	11,883	14,047	9,430	8,558
Area & Customer Services	71,520	59,431	46,832	47,164	48,933
Upgrades & Additions	113,430	149,650	74,933	84,894	72,173
System Replacements	305,991	363,091	528,496	506,197	411,032
Projects Funded in Advance	61,166	47,529	35,115	35,363	36,680
Total, Transmission Services - Capital	**558,327**	**631,585**	**699,422**	**683,048**	**577,376**

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 and upgrades (Expansion Investments), and replacements (Sustain Investments) to the Bonneville transmission system, resulting in reliable service to Northwest generators and transmission customers. The Bonneville transmission system also facilitates the delivery of power under sales and exchange agreements to and from the Pacific Northwest Region. The TS Capital Program is structured with a balanced focus on Expansion and Sustain investments.

In addition to replacing aging and obsolete equipment, 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 and remove constraints that limit economic trade or the ability to maintain the system. Some of the proposed TS projects may 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.

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 and fall into two categories:
Internally driven Expansion requests, which are derived from system engineering studies, technology innovation research, system operations and maintenance functions, and system event analysis.
Externally driven Expansion Investment requests, which are derived from governmental initiatives and regulations, consumer demand, and the integration of customer load service and generation needs.

These investments are categorized into:

1. Main Grid – System investments affecting 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 – Upgrades are system investments that replace existing assets to increase capacity, reliability, or functionality and Additions are net new assets added to the system.
4. Projects Funded in Advance – System investments that are requested, and funded in advance, by customers.

Congressionally approved Production Tax Credits (PTC) for renewable energy enacted in 2005 were extended through 2023. The PTC begins to phase out after 2023. The incentives created by these credits, along with Renewable Portfolio Standards (RPS) mandates implemented by the states of Oregon, Washington, and California, have spurred a large number of renewable projects interconnection requests to the Bonneville transmission system grid. As of September 30, 2021, Bonneville had interconnected between 5,878 MW and 6,228 MW of renewable qualified generation projects. Bonneville has more than 20,000 MW in additional renewable (wind, solar, biomass, geothermal, etc.) interconnection requests still remaining in the study queue. Solar project interconnection requests are currently making up the majority of the new requests in Bonneville's queue. The current projections are possibly 9,100 MW of renewable generation projects interconnected by 2025. Much of the remaining generation project transmission demand is the result of the Renewable Portfolio Standards and other legislations enacted by Oregon and Washington that require retail utilities to acquire more than 8,000 MW of renewable energy in the Northwest by 2025, some of which will connect to Bonneville. Exports of power from the Northwest to California are currently limited by California laws to 2,000 MW to 2,500 MW. If California chooses to amend its laws to allow more exports from the Northwest, the exports will be limited to about 6,000 MW by the ratings of the physical infrastructure between the Northwest and California. Bonneville could possibly expect another 1,000 to 2,000 MW to connect to our system in that event. Also in the BPA transmission interconnection request queue is approximately 2,500 MW of natural gas fired generation. Efficiency improvements to the FCRPS hydro units that qualify as renewable are also proposed between 2018 and 2024.

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. On May 18, 2017, Bonneville announced its decision to not build the I-5 Corridor Reinforcement Project. Bonneville continues to work with constituents and stakeholders to study more cost-effective options to mitigate the current limitations along this path. Public meetings began in July 2017 to address alternatives to building. An update to Bonneville's Available Transfer Capability (ATC) methodology increased the available transmission service on the Westside paths by a few hundred MW. Other alternatives, such as energy storage devices, are still being evaluated.

Bonneville's 2009, 2010, 2013, 2016, 2019, 2020, and 2021 study processes for new Transmission Service Requests (TSR) total 23,875 MW, including approximately 6,600 MW of wind project interconnection and 4,300 MW of solar project interconnection. The 2010 study process identified the Montana to Washington project, for which environmental review was begun, however, the original requests to support this project have been subsequently withdrawn and so all work on the project was terminated. Subsequent TSRs also require this project, and BPA is now undertaking Preliminary Engineering Activities on it again to move wind generation in Montana to the Northwest. The 2016 and 2019 study processes re-identified the Montana to Washington and Garrison to Ashe projects to move new wind generation in Montana to the Northwest. The requests to support the Garrison to Ashe project have been subsequently withdrawn so that project was terminated. The 2013 study process identified upgrades to the Monroe-Novelty Hill 230-kV transmission line which were re-identified for additional new requests in the 2016 study process. The 2016 study process identified network upgrades in Central Oregon, Walla Walla, Washington and across the Raver-Paul flowgate. The 2019 study process identified additional reinforcements across the Raver-Paul flowgate, the same Central Oregon and Walla Walla projects, and some significant impacts to third parties, specifically Portland General Electric and Puget Sound Energy. The 2020 study process identified an additional Schultz-Raver Series Capacitor project. The 2021 study process identified major reinforcements to transfer more power to the loads on the Olympic peninsula. Efforts are currently underway to provide required studies capacity to requesting customers.

Sustain Investments

Sustain investments are made to maintain the health of the existing infrastructure to assure reliable transmission in the Pacific 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 transmission system.

In 2009, Bonneville Transmission Services (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 the Agency's Strategic Plan, 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. BPA now bundles both sustain and expand capital projects in an effort to improve execution and to lower risks and costs. TS's capital program does remain somewhat 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, customer interconnection requests, 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, hangar, and maintenance centers.

Notwithstanding that the capital program for TS is subject to change, Bonneville has identified several general areas where capital investments 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

- Both BP-22 Draft Record of Decision (ROD) and Terms and Conditions (TC-22) were issued in June 2021 and the final ROD was issued in late July.
- Integrated 5,878 MW of renewable energy through September 2021 on Bonneville's transmission system
- Completed the addition of a 500kV transformer for wind hubs at John Day and Central Ferry Substations.
- Completed the Bonneville-Hood River line upgrade.
- Completed the Lane-Wend -1 line rebuild: rebuild Lane to Walt section.

- Completed the Mone line relay replacement and re-termination of Bays 4 and 5 project.
- Completed the replacement of Raver Reactor Banks 3 and 4.
- Completed the security enhancements at BELL substation and maintenance yards
- Completed the addition of a new 230kV transformer, breaker and disconnects at Longview substation.
- Completed 5 Grid Modernization projects, with 32 more approved and under development.
- Completed Morrow Flats UEC Phase 2 L0389
- Completed Holcomb Naselle 1 line rebuild.
- Completed Ostrander and Malin Substation Security Enhancements.

Explanation of Changes

Bonneville's budget includes $558.3 million in FY 2023 for TS Capital which is a 5.1 percent increase from the FY 2022 forecasted level. The FY 2023 budget increases the levels for Area & Customer Services ($23.0 million), Upgrade & Addition (+$36.6 million), and PFIA ($5.6 million) while decreases the levels for Main Grid (-$6.4 million) and System Replacements (-$31.8 million).

Strategic Asset Management

Transmission Services provides transmission and energy services while integrating renewable resources across the Pacific Northwest. This effort is coordinated throughout Bonneville in conjunction with the Strategic Asset Management Plan (SAMP) development. TS continues to implement integrated detailed Asset Plans to serve the region:

1. To improve system adequacy, reliability, and availability, Bonneville has embarked on major transmission infrastructure projects. The identified projects reinforce the transmission system and help meet 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. The replacement of aging assets is 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 Centers
    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 2021 Actuals	**FY 2022 Estimate**	**FY 2023 Estimate**
3,137	12,583	6,219

Overview

Bonneville's strategic objectives for Main Grid projects are to assure compliance with the NERC and 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:

Monroe Line Re-termination

- FY 2021. Completed construction
- FY 2022. No planned capital projects
- FY 2023. No planned capital projects

Schultz-Wautoma 500KV Series Capacitors

- FY 2021. Began construction
- FY 2022. Continue construction
- FY 2023. Complete construction

Montana-Washington

- FY 2021. No planned capital projects.
- FY 2022. Begin Design of TSEP Montana to Washington Project
- FY 2023. Complete design, begin 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 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
53,030	48,562	71,520

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
- This project was completed in FY 2020 and is owned by Lower Valley Energy.

Midway-Grandview 115 kV Line upgrade
- FY 2021. No planned capital projects
- FY 2022. No planned capital projects
- FY 2023. No planned capital projects

Puget Sound Area Northern Intertie (PSANI)
- FY 2021. Continued construction
- FY 2022. Complete construction
- FY 2023. No planned capital projects

McNary Substation 500/230 kV Bank Addition
- FY 2021. No planned capital projects
- FY 2022. No planned capital projects
- FY 2023. No planned capital projects

Paul Substation 500 kV Shunt Reactor Addition
- FY 2021. No planned capital projects
- FY 2022. No planned capital projects
- FY 2023. No planned capital projects

Big Eddy Breaker Additions
- FY 2021. No planned capital projects
- FY 2022. No planned capital projects
- FY 2023. Begin scoping and design

Drummond 115kV Breaker Additions
- FY 2021. No planned capital projects.
- FY 2022. No planned capital projects.
- FY 2023. No planned capital projects.

Midway –Ashe Double Circuit 230kV Line
- FY 2021. No planned capital projects
- FY 2022. Finalize design and begin construction
- FY 2023. Continue construction

Carlton Substation Upgrade

- FY 2021. Began design
- FY 2022. Begin construction
- FY 2023. Continue construction

Conkelley Substation Retirement

- FY 2021. Completed design
- FY 2022. Begin construction
- FY 2023. Continue construction

South Tri-Cities Reinforcement

- FY 2021. No planned capital projects
- FY 2022. Begin design
- FY 2023. Begin construction

LaPine Substation Upgrade TSEP – 2016

- FY 2021. No planned capital projects
- FY 2022. Begin design
- FY 2023. Begin construction

Longview Transformer Addition

- FY 2021. Continued construction
- FY 2022. Continue construction
- FY 2023. Complete 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 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
74,154	76,860	113,430

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 2021. Completed construction
- FY 2022. No planned capital projects
- FY 2023. No planned capital projects

VCC (Vancouver Control Center)
- FY 2021. Began Scoping and design
- FY 2022. Complete design and begin demolition and construction
- FY 2023. Continue construction

Bell-Boundary #DC SONET Ring Upgrade
- FY 2021. No planned capital projects
- FY 2022. No planned capital projects
- FY 2023. No planned capital projects

Operational Megabit Ethernet (OMET) System
- FY 2021. Project on pause.

500 kV Spares at Wind Integration Substations
- FY 2021. Continued construction
- FY 2022. Complete construction
- FY 2023. No planned capital projects

Ross Station Service Upgrade
- FY 2021. Began design
- FY 2022: Finish design and start construction
- FY 2023: 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).

System Replacements
($K)

FY 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
217,271	337,765	305,991

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, and vehicle fleet.
- Replace four BPA helicopter's with four new helicopter's from FY 2023-2024 utilizing General Services Administration exchange sale authority.

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.
- Begin design and replacement of the Keeler and Maple Valley SVC units. Completion scheduled for FY 2023.
- 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 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
63,292	55,542	61,166

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, revenue, or with reserves, either in total or in part.

Continued investments in PFIA assets include:

Umatilla Electrical Cooperative - Phase 2
- FY 2021. Completed construction
- FY 2022. No planned capital projects
- FY 2023. No planned capital projects

Summit Ridge Wind Project
- FY 2021. No planned capital projects
- FY 2022. No planned capital projects
- FY 2023. No planned capital projects

Bakeoven Wind Project
- FY 2021. Began design
- FY 2022. Begin project construction
- FY 2023. Complete construction

Quenett Creek Load Service Project
- FY 2021. No planned capital projects
- FY 2022. Start design
- FY 2023. Begin construction

PacifiCorps' Ponderosa Project Vitesse
- FY 2021. No planned capital projects.
- FY 2022. No planned capital projects.
- FY 2023. No planned capital projects.

Midway-Ashe Line Project
- FY 2021. Began design
- FY 2022. Begin construction
- FY 2023. Complete construction

Avangrid Montague 1 Wind Project
- FY 2021. Began design
- FY 2022. Complete construction
- FY 2023. No planned capital projects

Invenergy's Heppner Wind Project
- FY 2021. No planned capital projects
- FY 2022. No planned capital projects
- FY 2023. No planned capital projects

Morrow Solar Project

- FY 2021. No planned capital projects
- FY 2022. Scoping and begin design
- FY 2023. Begin construction

2 Morrow Energy LLC's Ella 3 Wind Project

- FY 2021. No planned capital projects
- FY 2022. No planned capital projects
- FY 2023. No planned capital projects

Morrow Flat 230kV Shunt Reactor

- FY2021. Began scoping
- FY2022. Begin design
- FY2023. Start and complete construction

Whistling Ridge 230 kV Ring Bus Project

- FY 2021. No planned capital projects
- FY 2022. Begin Scoping and design
- FY 2023. Complete design and begin construction

Badger Canyon 1

- FY 2021. No planned capital projects
- FY 2022. Begin design
- FY 2023. Begin construction

Badger Canyon 2

- FY2021. Began scoping and design
- FY2022. Finish design and begin construction
- FY2023. Complete construction

Invenergy Crider Valley Wind

- FY 2021. No planned capital projects
- FY 2022. Begin design
- FY 2023. Begin construction

Boyd Ridge Substation

- FY 2021. Began design
- FY 2022. Begin construction
- FY 2023. Continue construction

McNary 230KV section bay addition

- FY 2021. Began scoping
- FY 2022. Begin design and start construction
- FY 2023. Continue construction

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.

Activities, Milestones, and Explanation of Changes ($K)

FY 2022 Estimate	FY 2023 Estimate	Explanation of Changes FY 2023 vs FY 2022 Estimate
Transmission Services – Capital $531,312	**$558,327**	**$27,015/5.1%**
Main Grid $12,583 Milestones: • Continue construction of Schultz-Wautoma 500KV Series Capacitors. • Begin Design of TSEP Montana to Washington Project.	**$6,219** Milestones: • Complete construction of Schultz-Wautoma 500KV Series Capacitors. • Complete design and begin construction TSEP Montana to Washington Project.	**-6,364/-50.6%** • The decrease in the costs reflects a reshaping of funding needs for investment in the transmission system assets.
Area & Customer Service $48,562 Milestones: • Finalize design and begin construction of Midway – Ashe Double Circuit 230kV line. • Begin construction of Carlton Substation Upgrade. • Begin construction of Conkelly Substation Retirement. • Begin design of South Tri-Cities Reinforcement. • Continue construction of Longview Transformer Addition.	**$71,520** Milestones: • Begin scoping and design of Big Eddy Breaker Additions Project. • Continue construction of Midway – Ashe Double Circuit 230kV line. • Continue construction of Carlton Substation Upgrade. • Continue construction of Conkelly Substation Retirement. • Begin construction of South Tri-Cities Reinforcement. • Complete construction of Longview Transformer Addition.	**$22,958/47.3%** • The increase reflects additional funding needs for investment in the transmission system assets.

FY 2022 Estimate	FY 2023 Estimate	Explanation of Changes FY 2023 vs FY 2022 Estimate
Upgrades & Additions $76,860 Milestones: • Complete design and begin demolition and construction of Vancouver Control Center. • Complete construction of 500kV Spares at Wind Integration Substations. • Finish design and start construction of Ross Station Service Upgrade.	**$113,430** Milestones: • Continue construction of Vancouver Control Center. • Complete construction of Ross Station Service Upgrade.	**$36,570/47.6%** • The increase reflects additional funding needs for investment in the transmission system assets.
Systems Replacements $337,765	**$305,991**	**$-31,774/-9.4%**

Milestones: • 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, and vehicle fleet. • Continue replacement of BPA fixed-wing aircraft with a helicopter from FY 2022-2023 utilizing General Services Administration exchange sale authority. • 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.	Milestones: • 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, and vehicle fleet. • Replace four BPA helicopter's with four new helicopter's from FY 2023-2024 utilizing General Services Administration exchange sale authority. • 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.	• The decrease in the costs reflects a reshaping of funding needs for investment in the transmission system assets.

FY 2022 Estimate	FY 2023 Estimate	Explanation of Changes FY 2023 vs FY 2022 Estimate

- Continue replacing deteriorating wood pole transmission line structures, spacer dampers, and insulators.

Projects Funded in Advanced $55,542 Milestone: • Start design of Quenett Creek Load Service Project. • Begin construction of Midway-Ashe Line Project. • Scoping and begin design of Morrow Solar Project. • Begin design of Badger Canyon 1 Project. • Begin design of Invenergy Crider Valley Wind Project. • Begin construction of Boyd Ridge Substation.	**$61,166** Milestones: • Begin construction of Quenett Creek Load Service Project. • Complete construction of Midway-Ashe Line Project. • Begin construction of Morrow Solar Project. • Begin construction of Badger Canyon 1 Project. • Begin construction of Invenergy Crider Valley Wind Project. • Continue construction of Boyd Ridge Substation.	**$5,625/10.1%** • The increase reflects additional funding needs for investment in the transmission system assets.

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

	FY 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate	FY 2021 vs FY 2020 $	FY 2021 vs FY 2020 %
Capital Information Technology (IT) & Equipment/Capitalized Bond Premium					
Capital IT & Equipment	26,098	21,994	21,047	-947	-4.3%
Capitalized Bond Premium	0	0	0	0	0.0%
Total, Capital IT & Equipment/Capitalized Bond Premium	**26,098**	**21,994**	**21,047**	**-947**	**-4.3%**

Outyears ($K)

	FY 2023 Estimate	FY 2024 Estimate	FY 2025 Estimate	FY 2026 Estimate	FY 2027 Estimate
Capital Information Technology (IT) & Equipment/Capitalized Bond Premium					
Capital IT & Equipment	21,047	19,703	19,040	17,369	21,272
Capitalized Bond Premium	0	0	0	0	0
Total, Capital IT & Equipment/Capitalized Bond Premium	**21,047**	**19,703**	**19,040**	**17,369**	**21,272**

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 2023 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 2023 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 Information Technology & Equipment
($K)

FY 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
26,098	21,994	21,047

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 2021 Actual	FY 2022 Estimate	FY 2023 Estimate
0	0	0

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

Activities, Milestones, and Explanation of Changes ($K)

FY 2022 Estimate	FY 2023 Estimate	Explanation of Changes FY 2023 vs FY 2022 Estimate
Capital Information Technology & Equipment/Capitalized Bond Premium $21,994	**$21,047**	**$-947/-4.3%**
Capital Information Technology & Equipment $21,994 Milestones: Capital system developments in support of: • Corporate IT Projects • IT Infrastructure Projects • Power IT Projects • Transmission Services IT Projects	**$21,047** Milestones: Capital system developments in support of: • Corporate IT Projects • IT Infrastructure Projects • Power IT Projects • Transmission Services IT Projects	**$-947/-4.3%** • Decrease for investment in the IT system assets.
Capitalized Bond Premium $0	**$0**	**$0/0.0%**

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

	FY 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate	FY 2023 vs FY 2022 $	FY 2023 vs FY 2022 %
Power Services - Operating Expenses					
Production	1,042,552	888,663	912,109	23,446	2.6%
Associated Projects Costs	442,330	465,575	462,020	-3,555	-0.8%
Fish & Wildlife	240,573	246,893	246,581	-312	-0.1%
Residential Exchange Program	250,077	259,000	259,000	0	0.0%
NW Power & Conservation Council	10,985	11,942	12,431	489	4.1%
Energy Efficiency & Renewable Resources	145,497	155,685	150,734	-4,951	-3.2%
Total, Power Services - Operating Expenses	**2,132,014**	**2,027,758**	**2,042,875**	**15,117**	**0.7%**

Outyears ($K)

	FY 2023 Estimate	FY 2024 Estimate	FY 2025 Estimate	FY 2026 Estimate	FY 2027 Estimate
Power Services - Operating Expenses					
Production	912,109	953,064	975,384	997,013	1,018,482
Associated Projects Costs	462,020	474,016	484,842	495,299	505,709
Fish & Wildlife	246,581	246,565	246,551	246,537	246,523
Residential Exchange Program	259,000	265,346	271,406	277,260	283,087
NW Power & Conservation Council	12,431	12,086	12,363	12,629	12,895
Energy Efficiency & Renewable Resources	150,734	154,427	157,954	161,361	164,752
Total, Power Services - Operating Expenses	**2,042,875**	**2,105,504**	**2,148,500**	**2,190,099**	**2,231,449**

Power Services – Operating Expense

Overview

Production includes certain Bonneville non-federal amortization (including Energy Northwest amortization), O&M costs for federal base system power system generation resources (including a large nuclear plant (CGS), business operations, and short- and long-term power purchases[1]), acquisition of conservation, marketing of power, and oversight of the FCRPS hydroelectric projects and CGS. Bonneville develops power products and services to meet the needs of Bonneville's wholesale customers and acquires power as needed.

In FY 2018, Bonneville completed a long-term Resource Program, whose purpose is to assess BPA's future need for power and reserves and to develop an acquisition strategy to meet those projected needs. In the event that Bonneville does acquire output from a generating resource on a long-term basis, Bonneville will comply with section 6 of the Northwest Power Act and 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 costs of the Corps of Engineers and Bureau of 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 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). Additionally, the Spokane Tribe of Indians of the Spokane Reservation Equitable Compensation Act (Public Law 116-100), enacted on December 20, 2019, provides for equitable compensation to the Spokane Tribe of Indians of the Spokane Reservation for the use of tribal land for the production of hydropower by the Grand Coulee Dam, and for other purposes. Bonneville is pleased that this longstanding issue has been resolved equitably for the Spokane Tribe. The Act provides Bonneville and Northwest electric ratepayers cost certainty on this issue as we move toward discussions of long-term power sales contracts with our utility customers. Bonneville expenditures under the settlement that began in FY 2021 are estimated at $6 million annually.

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 Council's Program under the Northwest Power Act. Consistent with the Council's Program, Bonneville also implements measures to aid in the protection of fish and wildlife in the Columbia River and its tributaries, 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 Council's 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 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.

[1] 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.

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 Bonneville's funding of the Council, subject to certain limits based on forecasted Bonneville power sales, 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 loads of customers and supports Bonneville's acquisition of conservation as the region's lowest cost resource. 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 Comfort Ready Home, Energy Smart Industrial, and the Green Motors programs; (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 program reflects BPA's commitment to promote and acquire energy conservation as directed by the Northwest Electric Power Planning and Conservation Act.

Bonneville acquires conservation energy savings from its firm power customers under long-term Energy Conservation Agreements. Customers also perform self-funded conservation. Bonneville also provides research, evaluation, contract support, NEEA support, and emerging technology development.

The Residential Exchange Program (REP) was created by section 5(c) of the Northwest Power Act to extend the benefits of low-cost federal power to the residential and small farm loads of Pacific Northwest retail electric utilities that have high average system costs. These benefits are passed directly to the consumers. 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 small farm loads. ASCs are determined in accordance with BPA's 2008 Average System Cost Methodology (ASCM). Participating retail utility ASCs are established in a public process that occurs prior to and during Bonneville's power rate cases. 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 under 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 and the terms of the settlement.

Over the past decade, and prior to the settlement, regional parties 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 $2,042.9 million in FY 2023 for Power Services operating expenses, which is an increase of 0.7 percent over the FY 2022 forecasted level.

The FY 2023 budget decreases the level for Associated Projects Costs (-$3.6 million), Fish & Wildlife (-$0.3 million), and Energy Efficiency & Renewable Resources (-$5.0 million) while increases the level for Production ($23.4 million) and Planning Council ($0.5 million). The FY 2023 budget maintains the level for Residential Exchange at $259 million.

Production
($K)

FY 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
1,042,552	888,663	912,109

Overview

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

Power Scheduling/Marketing: Scheduling and marketing (buy/sell) of electric energy with Bonneville's 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 includes the project capability of CGS, a non-federal nuclear power plant, in the marketing of federal power to meet Bonneville's long term firm power supply obligations. CGS is on a 24-month fuel and outage cycle. Maintenance and refueling outage occurred in the fall of 2021.

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

- Provide oversight of all power supply contracts and related projects from which Bonneville acquires 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 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
442,330	465,575	462,020

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 of Engineers O&M power activities.

Fish & Wildlife
($K)

FY 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
240,573	246,893	246,581

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 Council's 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 Council's Program (including ISRP reviews) and the Accords extension 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 current FCRPS BiOps, the Washington Estuary Agreement, the Kalispel Agreement, and the Willamette and Southern Idaho agreements and new amendments to extend the 2018 Columbia Basin Fish Accord Extensions. 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 BiOps, the Council Program, and the new amendments to extend the 2018 Columbia Basin Fish Accord Extensions.
- 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 Council 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 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
406,559	426,627	422,165

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 ($K)

FY 2022 Estimate	FY 2023 Estimate	Explanation of Changes FY 2023 vs FY 2022 Estimate
Power Services - Operating Expense $2,027,758	**$2,042,875**	**$15,117/0.7%**
Production $888,663 Milestones: • Continue to provide oversight of all signed contracts. • Continue to provide wind resource integration services for customer wind generation.	**$912,109** Milestones: • Continue to provide oversight of all signed contracts. • Continue to provide wind resource integration services for customer wind generation.	**$23,446/2.6%** • The increase is due to higher CGS and support costs.
Associated Project Costs $465,575 Milestones: • Continue direct funding of Corps of Engineers and Bureau of Reclamation O&M power activities.	**$462,020** Milestones: • Continue direct funding of Corps of Engineers and Bureau of Reclamation O&M power activities.	**$-3,555/-0.8%** • The decrease reflects changes to security, BiOP requirements, non-routine extraordinary maintenance, WECC/NERC compliance activities, and improvements, replacements, and minor additions at the projects.
Fish & Wildlife Costs $246,893 Milestones: • Continue implementing both ongoing and new projects that support ESA-listed species and other measures called for under the current FCRPS BiOps, the 2018 Fish Accord extensions, the Washington Estuary Agreement, the Kalispel Agreement, the Southern Idaho Agreement, and the Willamette Agreement.	**$246,581** Milestones: • Continue implementing both ongoing and new projects that support ESA-listed species and other measures called for under the current FCRPS BiOps, the 2018 Fish Accord extensions, the Washington Estuary Agreement, the Kalispel Agreement, the Willamette Agreement, and the Southern Idaho Agreement.	**$-312/-0.1%** • The decrease in the costs reflect funding associated with the BiOps, 2018 Fish Accord extension commitments, and Northwest Power Act activities.

FY 2022 Estimate	FY 2023 Estimate	Explanation of Changes FY 2023 vs FY 2022 Estimate
Residential Exchange Program $259,000 Milestones: • Continue to provide REP benefits.	**$259,000** Milestones: • Continue to provide REP benefits.	**$0/0.0%** • No change in scheduled amount of REP payments payable to the IOUs prescribed by the Residential Exchange Settlement.
NW Power & Conservation Council $11,942 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.	**$12,431** 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.	**$489/4.1%** • The small increase reflects higher funding and continuing emphasis on the NW Power and Conservation Council.
Energy Efficiency & Renewable Resources $155,685 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.	**$150,734** Milestones: • Continue close-out of the legacy conservation resource acquisition contracts, which support Bonneville's contractual obligation to serve customer loads. • Continue to support utility incentive programs. • Continue to support regional energy efficiency programs. • Continue supporting energy efficiency at direct serve federal agencies.	**$-4,951/-3.2%** • The decrease reflects our cost cutting effort while continuing emphasis on the energy efficiency program consistent with the Power Plan.

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

	FY 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate	FY 2023 vs FY 2022 $	FY 2023 vs FY 2022 %
Transmission Services - Operating Expense					
Engineering	82,722	87,916	88,647	731	0.8%
Operations	209,303	204,201	207,608	3,408	1.7%
Maintenance	201,834	216,077	218,831	2,754	1.3%
Total, Transmission Services - Operating Expense	**493,859**	**508,194**	**515,087**	**6,893**	**1.4%**

Outyears ($K)

	FY 2023 Estimate	FY 2024 Estimate	FY 2025 Estimate	FY 2026 Estimate	FY 2027 Estimate
Transmission Services - Operating Expense					
Engineering	88,647	91,058	93,140	95,150	97,151
Operations	207,608	214,149	219,219	224,116	228,991
Maintenance	218,831	224,782	229,919	234,880	239,819
Total, Transmission Services - Operating Expense	**515,087**	**529,989**	**542,277**	**554,146**	**565,962**

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 goals 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 access and non-discriminatory transmission service; and 5) improve Bonneville's cost effectiveness.

Explanation of Changes

Bonneville's budget includes $515.1 million in FY 2023 for TS operating expense which is a 1.4 percent increase over the FY 2022 forecasted level. The increase still continues the operation and maintenance of Bonneville's transmission assets.

The FY 2023 budget increases the levels for Engineering (+$0.7 million), Operations (+$3.4 million), and Maintenance (+$2.8 million).

Engineering ($K)		
FY 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
82,722	87,916	88,647

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 a regional transmission planning organization.

- 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 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
209,303	204,201	207,608

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 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate
201,834	216,077	218,831

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 15,108 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 15,108 circuit miles of high voltage transmission lines, of which over 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 262 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 ($K)

FY 2022 Estimate	FY 2023 Estimate	Explanation of Changes FY 2023 vs FY 2022 Estimate
Transmission Services - Operating Expense **$508,194**	**$515,087**	**$6,893/1.4%**
Engineering $87,916 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.	**$88,647** 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.	**$731/0.8%** • The small increase reflects continued emphasis on system reliability standards compliance and research and development.
Operations $204,201 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.	**$207,608** 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.	**$3,408/1.7%** • The increase reflects continued emphasis on reliability compliance activities, resource integration activities, key strategic initiative, security, and control center systems support.
Maintenance $216,077 Milestones: • Continue to improve performance to meet System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI) targets.	**$218,831** Milestones: • Continue to improve performance to meet System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI) targets.	**$2,754/1.3%** • 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 2021 Actuals	FY 2022 Estimate	FY 2023 Estimate	FY 2022 vs FY 2021 $	FY 2022 vs FY 2021 %
Interest, Pension, and Post-retirement Benefits					
BPA Bond Interest (Net)	147,171	122,275	123,967	1,692	1.4%
BPA Appropriation Interest	0	0	0	0	0.0%
Corps of Engineers Appropriation Interest	39,113	37,069	37,268	199	0.5%
Lower Snake River Comp Plan Interest	186	186	186	0	0.0%
Bureau of Reclamation Appropriation Interest	1,211	1,155	1,155	0	0.0%
Bond Premiums Paid/Discounts (not capitalized)	(441)	1,326	2,327	1,001	75.5%
Subtotal, Interest – Operating Expense	**187,240**	**162,011**	**164,902**	**2,891**	**1.8%**
Additional Pension, and Post-retirement Benefits	33,365	31,273	32,306	1,033	3.3%
Total, Interest, Pension, and Post-retirement Benefits	**220,605**	**193,284**	**197,208**	**3,924**	**2.0%**

Outyears ($K)

	FY 2023 Estimate	FY 2024 Estimate	FY 2025 Estimate	FY 2026 Estimate	FY 2027 Estimate
Interest, Pension, and Post-retirement Benefits					
BPA Bond Interest (Net)	123,967	132,775	135,960	144,010	150,423
BPA Appropriation Interest	0	0	0	0	0
Corps of Engineers Appropriation Interest	37,268	37,495	38,153	38,926	39,137
Lower Snake River Comp Plan Interest	186	186	372	0	186
Bureau of Reclamation Appropriation Interest	1,155	1,155	1,155	1,155	1,155
Bond Premiums Paid/Discounts (not capitalized)	2,327	28,295	14,365	23,123	28,885
Subtotal, Interest – Operating Expense	**164,902**	**199,905**	**190,004**	**207,213**	**219,785**
Additional Pension, and Post-retirement Benefits	32,306	33,097	33,853	34,583	35,310
Total, Interest, Pension, and Post-retirement Benefits	**197,208**	**233,003**	**223,857**	**241,797**	**255,095**

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 of Engineers and Bureau of 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 initially receiving U.S. Treasury borrowing authority in 1974 under the Transmission Act, all of Bonneville's 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 of Engineers and Bureau of 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 $6.7 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. As a Federal agency, all post-retirement activity is managed by the Office of Personnel Management; therefore, neither the assets of the plans or the accumulated plan benefits are recorded by Bonneville. Since 1997, Bonneville has made 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.

Capital Transfers
Funding Schedule by Activity
Funding ($K)

	FY 2021 Actual	FY 2022 Estimate	FY 2023 Estimate	FY 2022 vs FY 2021 $	FY 2022 vs FY 2021 %
Capital Transfers					
BPA Bond Amortization[1]	756,700	699,000	734,000	35,000	5.0%
Bureau of Reclamation Appropriation Amortization	0	0	0	0	0.0%
BPA Appropriation Amortization	0	0	0	0	0.0%
Corps of Engineers Appropriation Amortization	49,099	0	0	0	0.0%
Lower Snake River Comp Plan Amortization	0	0	0	0	0.0%
Total, Capital Transfers	805,799	699,000	734,000	35,000	5.0%

Outyears ($K)

	FY 2023 Estimate	FY 2024 Estimate	FY 2025 Estimate	FY 2026 Estimate	FY 2027 Estimate
Capital Transfers					
BPA Bond Amortization[1]	734,000	744,000	709,000	747,000	758,000
Bureau of Reclamation Appropriation Amortization	0	0	0	0	0
BPA Appropriation Amortization	0	0	0	0	0
Corps of Engineers Appropriation Amortization	0	0	0	0	0
Lower Snake River Comp Plan Amortization	0	0	0	0	0
Total, Capital Transfers	734,000	744,000	709,000	747,000	758,000

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 2023 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 evidence of indebtedness issued and sold by Bonneville to the U.S. Treasury.

Additional Tables

BONNEVILLE POWER ADMINISTRATION

TOTAL OBLIGATIONS/OUTLAYS

Current Services

(in millions of dollars)

FISCAL YEAR

BP-1 SUMMARY[1/3/]	2021		2022		2023		2024	2025	2026	2027
	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Oblig.	Oblig.	Oblig.
1 Residential Exchange Program	250	250	259	259	259	259	265	271	277	283
2 Power Services[2/]	1,531	1,531	1,355	1,355	1,375	1,375	1,427	1,460	1,492	1,524
3 Transmission Services	841	841	984	984	1,012	1,012	1,114	1,207	1,202	1,107
4 Conservation & Energy Efficiency	145	145	156	156	151	151	154	158	161	165
5 Fish & Wildlife	282	282	290	290	290	290	277	272	262	262
6 Interest/ Pension[4/]	221	221	193	193	197	197	233	224	242	255
7 Associated Project Cost - Capital	202	202	264	264	281	281	300	307	314	320
8 Capital Equipment	26	26	22	22	21	21	20	19	17	21
9 Planning Council	11	11	12	12	12	12	12	12	13	13
10 Projects Funded in Advance	63	63	56	56	61	61	48	35	35	37
11 Capitalized Bond Premiums	0	0	0	0	0	0	0	0	0	0
12 **TOTAL OBLIGATIONS/OUTLAYS** [3/]	**3,573**	**3,573**	**3,591**	**3,591**	**3,660**	**3,660**	**3,850**	**3,965**	**4,015**	**3,987**

REVENUES AND REIMBURSEMENTS

Current Services

(in millions of dollars)

FISCAL YEAR

	BP-1 SUMMARY	2021		2022		2023		2024	2025	2026	2027
		Oblig.	Outlays	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Oblig.	Oblig.	Oblig.
13	Revenues [5/]	3,700	3,700	3,943	3,943	3,908	3,908	3,984	4,002	4,018	4,037
14	Project Funded in Advance	63	63	56	56	61	61	48	35	35	37
15	**TOTAL**	**3,763**	**3,763**	**3,999**	**3,999**	**3,969**	**3,969**	**4,032**	**4,037**	**4,053**	**4,074**
16	**BUDGET AUTHORITY (NET) [6/]**	**(159)**		**106**		**108**		**190**	**306**	**247**	**139**
17	**OUTLAYS (NET) [6/7/8]**		**(254)**		**(408)**		**(309)**	**(182)**	**(72)**	**(38)**	**(87)**

These notes are an integral part of this table.

1/ This FY 2023 budget includes capital and expense estimates based on final spending proposals from Bonneville's BP-22 IPR 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 electric utility industry.

2/ Power Services doesn't include 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.

For BP-1 table, the CJ reflects forecasted outlays while the yearend GTAS reflects the actual outlay in the Budget Appendix.

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/ Bonneville 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, continued restructuring of the electric industry, and other reasons.

8/ FY 2021 Net Outlays are calculated using Bonneville's audited actuals. FYs 2022 to 2027 Net Outlays are based on BP-22 IPR assumptions and an escalation factor from using the FY 2019 Whitebook Loads and Resources Report.

EXPENSED OBLIGATIONS/OUTLAYS [1,4/]

Current Services

(in millions of dollars)

FISCAL YEAR

BP-2	2021		2022		2023		2024	2025	2026	2027
	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Oblig.	Oblig.	Oblig.
1 Residential Exchange Program	250	250	259	259	259	259	265	271	277	283
2 Power Services [2/]	1,531	1,531	1,355	1,355	1,375	1,375	1,427	1,460	1,492	1,524
3 Transmission Services	494	494	508	508	515	515	530	542	554	566
4 Conservation & Energy Efficiency	145	145	156	156	151	151	154	158	161	165
5 Fish & Wildlife	241	241	247	247	247	247	247	247	247	247
6 Interest/ Pension [3/]	221	221	193	193	197	197	233	224	242	255
7 Planning Council	11	11	12	12	12	12	12	12	13	13
8 TOTAL EXPENSE	2,892	2,892	2,730	2,730	2,756	2,756	2,868	2,915	2,986	3,053
9 Projects Funded in Advance	63	63	56	56	61	61	48	35	35	37

CAPITAL OBLIGATIONS/OUTLAYS [1/]

Current Services

(in millions of dollars)

FISCAL YEAR

BP-2 continued	2021		2022		2023		2024	2025	2026	2027
	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Oblig.	Oblig.	Oblig.
10 Transmission Services	348	348	476	476	497	497	584	664	648	541
11 Associated Project Cost	202	202	264	264	281	281	300	307	314	320
12 Fish & Wildlife	42	42	43	43	43	43	30	25	15	15
13 Capital Equipment	26	26	22	22	21	21	20	19	17	21
14 Capitalized Bond Premiums	0	0	0	0	0	0	0	0	0	0
15 **TOTAL CAPITAL INVESTMENTS**	**617**	**617**	**805**	**805**	**842**	**842**	**934**	**1,015**	**994**	**897**
16 **TREASURY BORROWING AUTHORITY TO**										
17 **FINANCE CAPITAL OBLIGATIONS [4/]**	**617**		**805**		**842**		**934**	**1,015**	**994**	**897**

These notes are an integral part of this table.

[1/] This FY 2023 budget includes capital and expense estimates based on final spending proposals from Bonneville's BP-22 IPR 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 electric utility industry.

[2/] Power Services doesn't include 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**

	2021 Payment	2022 Payment	2023 Payment	2024 Payment	2025 Payment	2026 Payment	2027 Payment
Amortization:							
18 BPA Bonds	757	699	734	744	709	747	758
19 Reclamation Appropriations	0	0	0	0	0	0	0
20 BPA Appropriations	0	0	0	0	0	0	0
21 Corps Appropriations	49	0	0	0	0	0	0
22 Lower Snake River Comp Plan Amortization	0	0	0	0	0	0	0
23 **TOTAL CAPITAL TRANSFERS**	**806**	**699**	**734**	**744**	**709**	**747**	**758**
24 **FULL-TIME EQUIVALENT (FTE)**	**2,825**	**3,000**	**3,000**	**3,000**	**3,025**	**3,075**	**3,125**

PROGRAM & FINANCING SUMMARY

Current Services

(in millions of dollars)

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

		2021	2022	est. 2023	2024	2025	2026	2027
Program by activities:								
	Operating expenses:							
0.01	Power Services	1,089	889	912	953	975	997	1,018
0.02	Residential Exchange Program	250	259	259	265	271	277	283
	Associated Project Costs:							
0.05	Bureau of Reclamation	150	152	153	155	159	162	166
0.06	Corps of Engineers	236	253	253	259	265	270	276
0.07	Colville Settlement	19	22	22	23	23	24	24
0.08	Spokane Settlement	6	6	5	6	6	6	6
0.19	U.S. Fish & Wildlife Service	31	33	29	32	32	33	34
0.20	Planning Council	11	12	12	12	12	13	13
0.21	Fish & Wildlife	241	247	247	247	247	247	247
0.23	Transmission Services	494	508	515	530	542	554	566
0.24	Conservation & Energy Efficiency	145	156	151	154	158	161	165
0.25	Interest	187	162	165	200	190	207	220
0.26	Pension and Health Benefits [1/]	33	31	32	33	34	35	35
0.91	**Total operating expenses [2/]**	**2,892**	**2,729**	**2,755**	**2,868**	**2,915**	**2,986**	**3,053**
	Capital investment:							
1.01	Power Services	202	264	281	300	307	314	320
1.02	Transmission Services	348	476	497	584	664	648	541
1.04	Fish & Wildlife	42	43	43	30	25	15	15
1.05	Capital Equipment	26	22	21	20	19	17	21
1.06	Capitalized Bond Premiums	0	0	0	0	0	0	0
1.07	**Total Capital Investment [3/]**	**617**	**805**	**842**	**934**	**1,015**	**994**	**897**
2.01	Projects Funded in Advance	63	56	61	48	35	35	37
10.00	**Total obligations [4/]**	**3,573**	**3,590**	**3,659**	**3,850**	**3,965**	**4,015**	**3,987**

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 doesn't include 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 2023 budget includes capital and expense estimates based on final spending proposals from Bonneville's BP-22 IPR process.

For purposes of this table, this FY 2023 budget reflects, for FY 2021, forecast 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 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)

		2021	2022	2023 est.	2024	2025	2026	2027
Financing:								
1000	Unobligated balance available, start of year. [5/]	10	10	8	0	0	0	0
1050	Unobligated balance available, end of year.[5/]	11	8	8	0	0	0	0
1900	**Budget authority (gross)**	**3,571**	**4,104**	**4,078**	**4,221**	**4,343**	**4,300**	**4,213**
Budget Authority:								
1400	Permanent Authority: Authority to borrow from Treasury (indefinite) [6/]	737	805	842	934	1,015	994	897
1600	Contract Authority	2,379						
1800	Spending authority from off-setting collections	3,763	3,999	3,969	4,032	4,037	4,053	4,074
1825	Portion applied to debt reduction	(757)	(699)	(734)	(744)	(709)	(747)	(758)
1850	**Spending authority from offsetting collections (adjusted)**	**455**	**3,300**	**3,235**	**3,288**	**3,328**	**3,306**	**3,316**
900	Total obligations	3,573	3,591	3,660	3,850	3,965	4,015	3,987
4110	Outlays (gross)	3,509	3,591	3,660	3,850	3,965	4,015	3,987
Adjustments to budget authority and outlays:								
	Deductions for offsetting collections:							
4120	Federal funds	(51)	(90)	(90)	(90)	(90)	(90)	(90)
4121	Interest on Federal Securities	0	0	0				
4123	Non-Federal sources	(3,712)	(3,909)	(3,879)	(3,942)	(3,947)	(3,963)	(3,984)
4130	Total, offsetting collections	(3,763)	(3,999)	(3,969)	(4,032)	(4,037)	(4,053)	(4,074)
4160	**Budget authority (net)**	**(159)**	**106**	**108**	**190**	**306**	**247**	**139**
4170	**Outlays (net) [7/8/]**	**(254)**	**(408)**	**(309)**	**(182)**	**(72)**	**(38)**	**(87)**

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 at that time from the U.S. 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.

Total includes BPA's self-financing activities and funds for Radio Spectrum Relocation. In addition, BPA has negotiated with the U.S. Treasury access to a $750 million short term note as part of the $17.7 billion borrowing authority.

[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, continued restructuring of the electric industry, and other reasons.

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.

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.

[8/] FY 2021 Net Outlays are calculated using Bonneville's audited actuals. FYs 2022 to 2027 Net Outlays are based on BP-22 IPR assumptions and an escalation factor from using the FY 2019 Whitebook Loads and Resources Report.

BONNEVILLE POWER ADMINISTRATION
BPA STATUS of U.S. TREASURY BORROWING
CURRENT SERVICES

BP-4A

	Fiscal Year							
	2021				**2022**			
	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	4,347	3,805	5,246	5,649	4,207	3,665	5,106	5,629
Plus: Annual Increase								
Cum.-Annual Treasury Borrowing	617	617	617	737	805	805	805	805
Treasury Borrowing (Cash)								
Less:								
BPA Bond Amortization	757	757	757	757	699	699	699	699
Net Increase/(Decrease):	(140)	(140)	(140)	(20)	106	106	106	106
Cum.-End-of-Year: Total	4,207	3,665	5,106	5,629	4,313	3,771	5,212	5,735
Total Remaining Treasury Borrowing Amount				2,071				11,965
Total Legislated Treasury Borrowing Amount				7,700				17,700

These notes are an integral part of this table.

In any given year, Bonneville may issue lower principal amount of bonds to the U.S. Treasury than forecast depending on net revenues, borrowing costs, and other cash management factors. In such cases, Bonneville 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 2023 budget, Bonneville "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 Bonneville 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 electric utility industry.

Cumulative advance amortization payments as of the end of FY 2021 are $6,230 million.

Total includes BPA's self-financing activities. In addition, BPA has negotiated with the U.S. Treasury access to a $750 million short term note as part of the $17.7 billion borrowing authority.

Section 40110 of the Infrastructure Investment and Jobs Act of 2021, Public Law 117-58, enacted on November 15, 2021, provided the Bonneville Administrator with $10 billion in additional permanent borrowing authority "…to assist in the financing, acquisition and replacement of the Federal Columbia Power System and to implement the authority of the Administrator of the Bonneville Power Administration…" Section 40110 specifies that the "obligation"…of the $10 billion in additional borrowing authority…shall not exceed $6 billion by fiscal year 2028.

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

BP-4B

	2023				2024			
	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	4,313	3,771	5,212	5,735	4,422	3,880	5,321	5,844
Plus: Annual Increase								
Cum.-Annual Treasury Borrowing	842	842	842	842	934	934	934	934
Treasury Borrowing (Cash)								
Less:								
Total BPA Bond Amortization	734	734	734	734	744	744	744	744
Net Increase/(Decrease):								
Total	108	108	108	108	190	190	190	190
Cum.-End-of-Year: Total	4,422	3,880	5,321	5,844	4,612	4,070	5,511	6,034
Total Remaining Treasury Borrowing Amount				11,856				11,666
Total Legislated Treasury Borrowing Amount				17,700				17,700

These notes are an integral part of this table.

In any given year, Bonneville may issue lower principal amount of bonds to the U.S. Treasury than forecast depending on net revenues, borrowing costs, and other cash management factors. In such cases, Bonneville 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 2023 budget, Bonneville "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 Bonneville 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 electric utility industry.

Cumulative advance amortization payments as of the end of FY 2021 are $6,230 million.

Total includes BPA's self-financing activities. In addition, BPA has negotiated with the U.S. Treasury access to a $750 million short term note as part of the $17.7 billion borrowing authority.

Section 40110 of the Infrastructure Investment and Jobs Act of 2021, Public Law 117-58, enacted on November 15, 2021, provided the Bonneville Administrator with $10 billion in additional permanent borrowing authority "…to assist in the financing, acquisition and replacement of the Federal Columbia Power System and to implement the authority of the Administrator of the Bonneville Power Administration…" Section 40110 specifies that the "obligation"…of the $10 billion in additional borrowing authority…shall not exceed $6 billion by fiscal year 2028.

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

BP-4C Fiscal Year

	2025				2026			
	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	4,612	4,070	5,511	6,034	4,918	4,376	5,817	6,340
Plus: Annual Increase								
Cum.-Annual Treasury Borrowing Treasury Borrowing (Cash)	1,015	1,015	1,015	1,015	994	994	994	994
Less:								
Total BPA Bond Amortization	709	709	709	709	747	747	747	747
Net Increase/(Decrease):								
Total	306	306	306	306	247	247	247	247
Cum.-End-of-Year: Total	4,918	4,376	5,817	6,340	5,164	4,622	6,063	6,586
Total Remaining Treasury Borrowing Amount				11,360				11,114
Total Legislated Treasury Borrowing Amount				17,700				17,700

These notes are an integral part of this table.

In any given year, Bonneville may issue lower principal amount of bonds to the U.S. Treasury than forecast depending on net revenues, borrowing costs, and other cash management factors. In such cases, Bonneville 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 2023 budget, Bonneville "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 Bonneville 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 electric utility industry.

Cumulative advance amortization payments as of the end of FY 2021 are $6,230 million.

Total includes BPA's self-financing activities. In addition, BPA has negotiated with the U.S. Treasury access to a $750 million short term note as part of the $17.7 billion borrowing authority.

Section 40110 of the Infrastructure Investment and Jobs Act of 2021, Public Law 117-58, enacted on November 15, 2021, provided the Bonneville Administrator with $10 billion in additional permanent borrowing authority "…to assist in the financing, acquisition and replacement of the Federal Columbia Power System and to implement the authority of the Administrator of the Bonneville Power Administration…" Section 40110 specifies that the "obligation"…of the $10 billion in additional borrowing authority…shall not exceed $6 billion by fiscal year 2028.

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

BP-4D

	Fiscal Year 2027			
	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing
Start-of-Year: Total	5,164	4,622	6,063	6,586
Plus: Annual Increase				
Cum.-Annual Treasury Borrowing	897	897	897	897
Treasury Borrowing (Cash)				
Less:				
Total BPA Bond Amortization	758	758	758	758
Net Increase/(Decrease):				
Total	139	139	139	139
Cum.-End-of-Year: Total	5,304	4,762	6,203	6,726
Total Remaining Treasury Borrowing Amount				10,974
Total Legislated Treasury Borrowing Amount				17,700

These notes are an integral part of this table.

In any given year, Bonneville may issue lower principal amount of bonds to the U.S. Treasury than forecast depending on net revenues, borrowing costs, and other cash management factors. In such cases, Bonneville 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 2023 budget, Bonneville "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 Bonneville 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 electric utility industry.

Cumulative advance amortization payments as of the end of FY 2021 are $6,230 million.

Total includes BPA's self-financing activities. In addition, BPA has negotiated with the U.S. Treasury access to a $750 million short term note as part of the $17.7 billion borrowing authority.

Section 40110 of the Infrastructure Investment and Jobs Act of 2021, Public Law 117-58, enacted on November 15, 2021, provided the Bonneville Administrator with $10 billion in additional permanent borrowing authority "…to assist in the financing, acquisition and replacement of the Federal Columbia Power System and to implement the authority of the Administrator of the Bonneville Power Administration…" Section 40110 specifies that the "obligation"…of the $10 billion in additional borrowing authority…shall not exceed $6 billion by fiscal year 2028.

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

BP-5

		Fiscal Year						
Transmission Services - Capital		**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Main Grid	Requirements	3	13	6	12	14	9	9
Area & Customer Services		53	49	72	59	47	47	49
Upgrades & Additions		74	77	113	150	75	85	72
System Replacements		217	338	306	363	528	506	411
Projects Funded in Advance		63	56	61	48	35	35	37
Total, Transmission Services - Capital		411	531	558	632	699	683	577
Associated Project Costs - Capital								
Associated Project Costs	Requirem	202	264	281	300	307	314	320
Projects Funded in Advance[1/]		0	0	0	0	0	0	0
Total, Associated Project Costs - Capital		202	264	281	300	307	314	320
Federal and Non-Federal Funding								
Projects Funded in Advance	Source	63	56	61	48	35	35	37
U.S. Treasury Borrowing Authority		549	740	778	884	971	961	861
Scenario								
Projects Funded in Advance[1/]	Scenario	0	0	0	0	0	0	0
Third Party Financing		87	119	124	146	166	162	135
Alternate Treasury Borrowing Authority		NA	621	654	738	805	799	726

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

The table above shows both the potential use of U.S. Treasury borrowing authority for transmission capital projects based on this FY 2023 budget and the use adjusted for potential third-party financing to fund appropriate capital expenditures when feasible in lieu of U.S. Treasury borrowing. Estimates included in this FY 2023 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 U.S. Treasury borrowing and do not reflect the actual notional third party financing commitment Bonneville may enter into in that particular year. The difference of reduction in use of U.S. Treasury borrowing and the actual notional third party financing commitment is primarily due to the difference in the timing of financing transactions between U.S. 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 Bonneville to acquire the use of transmission facilities over time. Bonneville also undertakes the construction and installation of facilities from funds that customers advance to Bonneville for construction of BPA-owned facilities that assist the customers in obtaining necessary transmission service from Bonneville. These customers receive monetary payment credits in bills for transmission services from Bonneville up to the amount of funds advanced to Bonneville, plus interest.

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

Bonneville Status of U.S. Treasury Borrowing with Potential Third Party Financing & PFIA Scenario

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

	Fiscal Year						
	2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Start-of-Year: Total Bonds Outstanding	5,649	5,629	5,616	5,601	5,644	5,784	5,869
Plus:							
U.S. Treasury Borrowing (Cash)	737	805	842	934	1,015	994	897
Less:							
Potential Third Party Financing & PFIA	87	119	124	146	166	162	135
BPA Bond Amortization	757	699	734	744	709	747	758
Net Increase/(Decrease) Bonds Outstanding:	(20)	(13)	(16)	44	140	85	4
Cum.-End-of-Year: Total	5,629	5,616	5,601	5,644	5,784	5,869	5,873
Total Remaining U.S. Treasury Borrowing Amount	2,071	12,084	12,099	12,056	11,916	11,831	11,827
Total Legislated U.S.Treasury Borrowing Amount	7,700	17,700	17,700	17,700	17,700	17,700	17,700

U.S. TREASURY PAYMENTS

(in millions of dollars)

		FISCAL YEAR						
		2021	2022	2023	2024	2025	2026	2027
A.	**INTEREST ON BONDS & APPROPRIATIONS**							
	Bonneville Bond Interest							
1	Bonneville Bond Interest (net)	121	122	124	133	136	144	150
2	AFUDC [1/]	26	27	27	28	28	29	31
	Appropriations Interest							
3	Bonneville	0	0	0	0	0	0	0
4	Corps of Engineers [2/]	39	37	37	37	38	39	39
5	Lower Snake River Comp. Plan	0	0	0	0	0	0	0
6	Bureau of Reclamation [3/]	1	1	1	1	1	1	1
7	Bond Premiums paid/Discounts (not capitalized)	0	1	2	28	14	23	29
8	**Total Bond and Approp. Interest**	**187**	**189**	**192**	**228**	**218**	**236**	**251**
B.	**ASSOCIATED PROJECT COST**							
9	Bureau of Reclamation Irrigation Assistance	22	16	13	8	13	20	6
10	Bureau of Rec. O & M [4/]	0	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**	**23**	**16**	**13**	**8**	**13**	**20**	**6**
C.	**CAPITAL TRANSFERS**							
	Amortization							
14	Bonneville Bonds [6/]	757	699	734	744	709	747	758
15	Bureau of Reclamation Appropriations	0	0	0	0	0	0	0
16	Corps of Engineers Appropriations	49	0	0	0	0	0	0
17	Lower Snake River Comp. Plan	0	0	0	0	0	0	0
18	Bonneville Appropriations	0	0	0	0	0	0	0
19	**Total Capital Transfers [/8]**	**806**	**699**	**734**	**744**	**709**	**747**	**758**
D.	**OTHER PAYMENTS**							
20	Unfunded Post-Retirement Liability [5/]	33	31	32	33	34	35	35
21	**TOTAL TREASURY PAYMENTS**	**1,049**	**935**	**971**	**1,013**	**975**	**1,038**	**1,051**

These notes are an integral part of this table.

1/ This interest cost is capitalized and included in BPA's Transmission System Development, System Replacements, 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	2021	2022	2023	2024	2025	2026	2027
Bureau of Reclamation	150	152	153	155	159	162	166
Corps of Engineers	236	253	253	259	265	270	276
Subtotal Bureau and Corps	387	405	406	414	424	433	442
Lower Snake River Comp. Plan	31	33	29	32	32	33	34
Total	417	438	435	446	456	466	476

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 2023 budget, Bonneville "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 Bonneville 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.

8/ FY 2021 data reflects BPA's audited actuals.

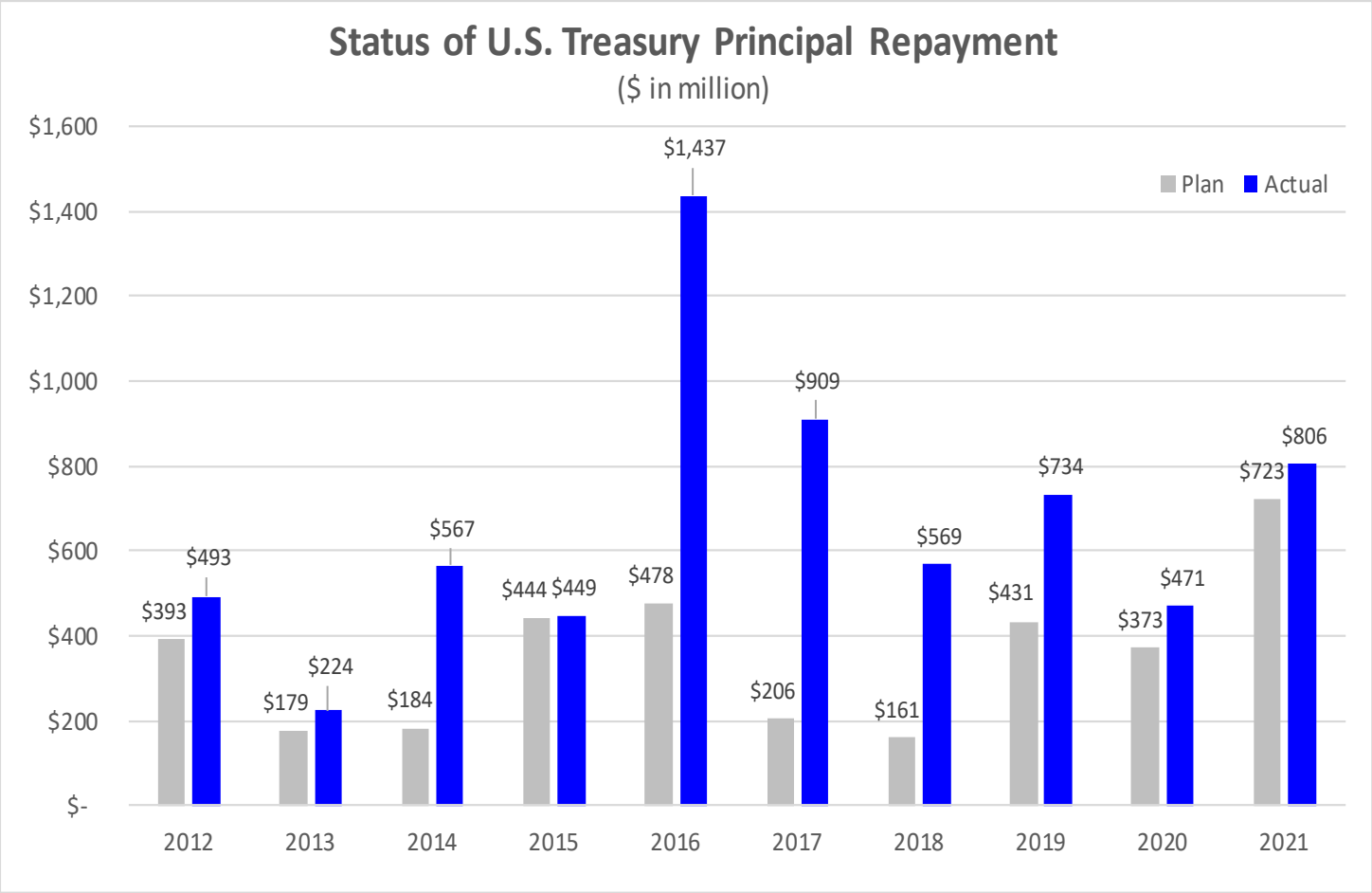


Chart Notes

[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 are 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 FY 2021 payment to the U.S. Treasury was approximately $1,049 million. This was the 38th consecutive year that Bonneville made its scheduled payments to the U.S. Treasury on time and in full. The payment included $806 million in principal, which included $412 million in early retirement of higher interest rate U.S. Treasury debt, $187 million for interest, $22 million in irrigation assistance payments, and $33 million in pension and post-retirement benefits.

[3/] FYs 2002-2012 payments include portions of advance 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, and $0.6 million in FY 2017.

[5/] The cumulative balance of advance amortization payments as of the end of FY 2021 was in excess of $6.2 billion.

[6/] FYs 2014-2021 include advance amortization under the Regional Cooperation Debt initiative with Energy Northwest (EN) under which EN extended maturities on Bonneville-backed debt which enabled the early amortization of higher cost appropriations and bonds.

OBJECT CLASSIFICATION STATEMENT

(in millions of dollars)

		ESTIMATES		
		2021	**2022**	**2023**
11.1	Full-time permanent	264	265	270
11.3	Other than full-time permanent	1	1	1
11.5	Other personnel compensation	79	79	81
11.9	**Total personnel compensation**	**344**	**346**	**352**
12.1	Civilian personnel benefits	164	165	168
13.0	Benefits for former personnel	0	0	0
21.0	Travel and transportation of persons	1	1	1
22.0	Transportation of things	1	1	1
23.1	Rental payments to GSA	0	0	0
23.2	Rents, other	34	34	34
23.3	Communication, utilities & misc. charg	10	10	10
25.1	Consulting Services	131	132	134
25.2	Other Services	2,415	2,426	2,471
25.5	R & D Contracts	2	4	4
26.0	Supplies and materials	24	24	25
31.0	Equipment	85	85	87
32.0	Lands and structures	79	79	81
41.0	Grants, subsidies, contributions	47	47	48
43.0	Interest and dividends	236	237	242
99.0	**Total obligations**	**3,573**	**3,591**	**3,658**

Estimate of Receipts
(in millions of dollars)

	Fiscal Year						
	2021	2022	2023	2024	2025	2026	2027
Reclamation Interest	1	1	1	1	1	1	1
Reclamation Amortization	0	0	0	0	0	0	0
Reclamation O&M	0	0	0	0	0	0	0
Reclamation Irrig. Assist.	22	16	13	8	13	20	6
Revenues Collected by Reclamation	-18	-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	**1**	**5**	**2**	**-3**	**3**	**9**	**-5**
Corps O&M							
CSRS	33	31	32	33	34	35	35
Total 2/ Repayments on miscellaneous costs	**33**	**31**	**32**	**33**	**34**	**35**	**35**

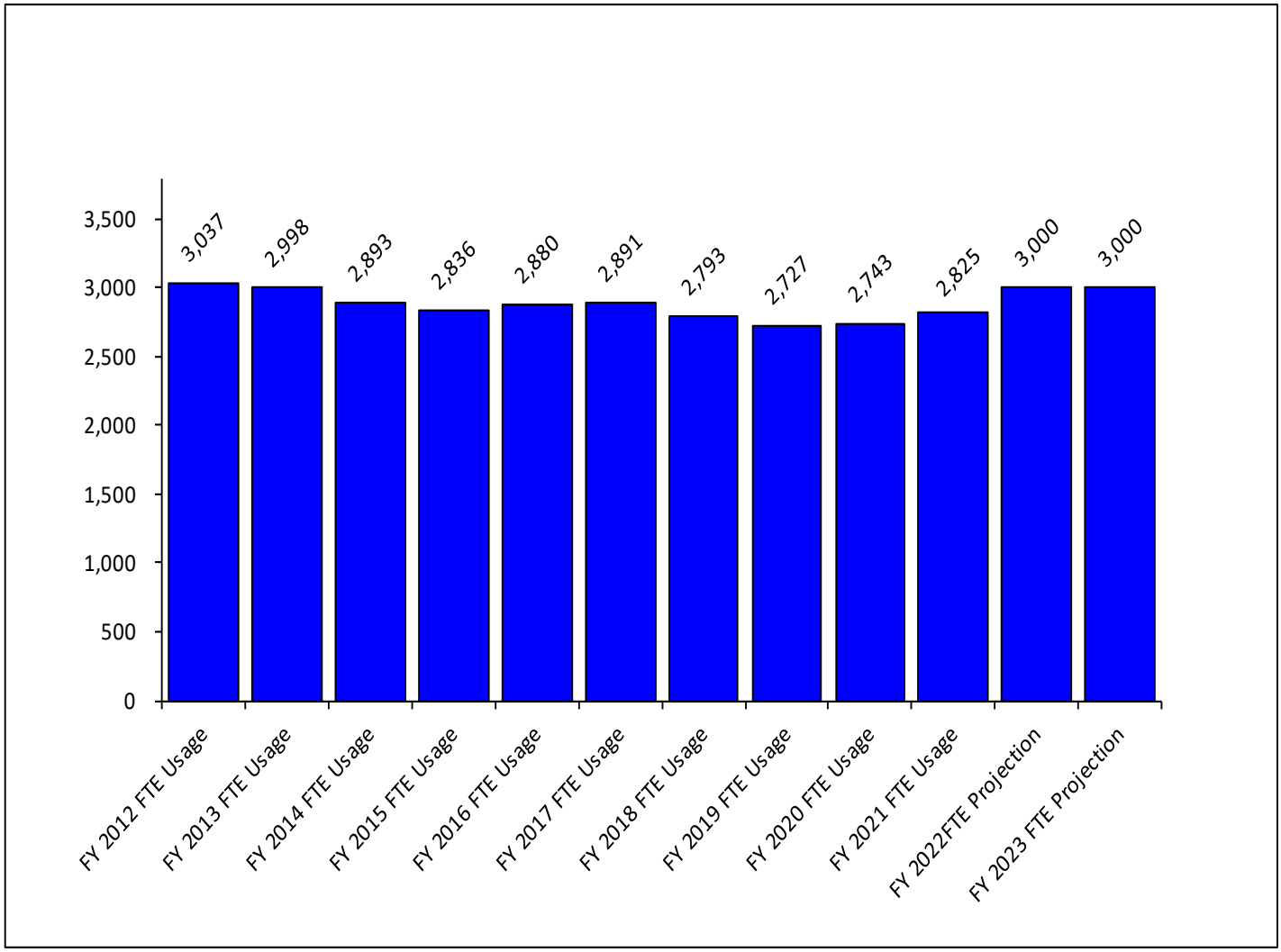
1/ Includes amortization of appropriations and irrigation assistance, and interest costs for Reclamation. The cost of power O&M for Reclamation is no longer included in Proprietary Receipts due to Direct Funding by Bonneville. Represents transfer to Account #895000.26

2/ The costs of power O&M for the Corps and Lower Snake River 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).

	2021	2022	2023	2024	2025	2026	2027
Bureau of Reclamation	150	152	153	155	159	162	166
Corps of Engineers	236	253	253	259	265	270	276
Lower Snake River Comp. Plan	31	33	29	32	32	33	34
Total	**417**	**438**	**435**	**446**	**456**	**466**	**476**

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



These notes are an integral part of this chart.

1. Actual FTE data is consistent with DOE personnel reports.

2. 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.

3. As of November 03, 2021 DOE HR staff has reported FY 2021 BPA's FTE usage at 2,825.

Total Cost of BPA Fish & Wildlife Actions ($ in million)

COST ELEMENT	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
CAPITAL INVESTMENTS [1/]										
BPA FISH AND WILDLIFE	57.5	52.1	37.4	21.4	16.0	5.4	30.7	22.3	40.2	41.9
BPA SOFTWARE DEVELOPMENT COSTS	0.4	0.0	0.1	1.4	1.2	1.4	0.8	0.0	0.0	0.0
ASSOCIATED PROJECTS (FEDERAL HYDRO)	114.5	103.6	101.7	81.4	34.1	58.9	51.8	55.5	106.6	66.7
TOTAL CAPITAL INVESTMENTS	**172.3**	**155.7**	**139.2**	**104.1**	**51.4**	**65.7**	**83.2**	**77.9**	**146.7**	**108.6**
PROGRAM EXPENSES										
BPA DIRECT FISH AND WILDLIFE PROGRAM	248.9	239.0	231.8	258.2	258.1	254.7	258.7	240.4	238.1	253.6
FISH & WILDLIFE SOFTWARE EXPENSE COSTS		0.2	0.3	0.1	0.0	0.0	0.1	0.0	0.0	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	22.0	28.7	31.0	30.9	28.6	26.0	31.4	26.7	31.9	30.7
O & M CORPS OF ENGINEERS	41.1	39.2	47.8	46.4	48.2	46.8	47.5	48.9	46.3	48.3
O & M BUREAU OF RECLAMATION	5.3	5.6	6.6	2.6	6.0	7.0	5.5	8.7	5.8	6.5
NW POWER AND CONSERVATION COUNCIL ALLOCATED @ 50%	4.6	5.0	4.9	4.9	5.4	5.4	5.5	5.6	5.6	5.5
SUBTOTAL (REIMB/DIRECT-FUNDED)	73.0	78.5	90.3	84.9	88.2	85.2	89.9	89.9	89.6	91.0
TOTAL OPERATING EXPENSES	**321.9**	**317.70**	**322.40**	**343.17**	**346.34**	**339.90**	**348.65**	**330.30**	**327.66**	**344.60**
PROGRAM RELATED FIXED EXPENSES [4/]										
INTEREST EXPENSE	80.6	89.1	83.4	89.2	85.6	58.6	41.0	39.7	32.5	29.3
AMORTIZATION EXPENSE	30.2	35.7	38.7	41.3	42.5	42.5	43.4	45.1	46.7	47.4
DEPRECIATION EXPENSE	20.7	18.6	19.2	20.1	20.1	20.3	20.8	21.0	21.1	22.0
TOTAL FIXED EXPENSES	**131.5**	**143.4**	**141.3**	**150.6**	**148.2**	**121.4**	**105.1**	**105.8**	**100.3**	**98.7**
GRAND TOTAL PROGRAM EXPENSES	**453.4**	**461.1**	**463.7**	**493.7**	**494.6**	**461.3**	**453.7**	**436.1**	**428.0**	**443.3**
FORGONE REVENUES AND POWER PURCHASES										
FOREGONE REVENUES	152.2	135.5	122.7	195.8	76.6	9.6	2.9	174.4	33.4	190.6
BPA POWER PURCH. FOR FISH ENHANCEMENT	38.5	85.8	196.2	67.5	50.3	(20.5)	24.3	177.6	150.0	110.6
TOTAL FOREGONE REVENUES AND POWER PURCHASES	**190.7**	**221.3**	**318.9**	**263.3**	**126.9**	**(10.9)**	**27.2**	**352.0**	**183.4**	**301.2**
TOTAL PROGRAM EXPENSES, FOREGONE REVENUES, & POWER PURCHASES	**644.1**	**682.4**	**782.6**	**757.0**	**621.5**	**450.4**	**480.9**	**788.1**	**611.5**	**744.5**
CREDITS										
4(h)(10)(C)	(77.0)	(84.1)	(103.9)	(77.7)	(72.6)	(53.7)	(70.1)	(98.2)	(95.5)	(90.6)
FISH COST CONTINGENCY FUND	-	-	-	-	-	-	-	-	-	-
TOTAL CREDITS	**(77.0)**	**(84.1)**	**(103.9)**	**(77.7)**	**(72.6)**	**(53.7)**	**(70.1)**	**(98.2)**	**(95.5)**	**(90.6)**

This information has been made publicly available by BPA on 10/30/2021. The figures shown are consistent with audited actuals that contain Agency approved financial information, except for forgone revenues and power purchases which are estimates and do not contain Agency approved financial information

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.