BP-24 Rate Proceeding

Final Proposal

Power Revenue Requirement Study

BP-24-FS-BPA-02

July 2023

POWER REVENUE REQUIREMENT STUDY

TABLE OF CONTENTS

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COMMONLY USED ACRONYMS AND SHORT FORMS

AAC	Anticipated Accumulation of Cash
ACNR	Accumulated Calibrated Net Revenue
ACS	Ancillary and Control Area Services
AF	Advance Funding
AFUDC	Allowance for Funds Used During Construction
AGC	automatic generation control
aMW	average megawatt(s)
ANR	Accumulated Net Revenues
ASC	Average System Cost
BAA	Balancing Authority Area
BiOp	Biological Opinion
BPA	Bonneville Power Administration
BPAP	Bonneville Power Administration Power
BPAT	Bonneville Power Administration Transmission
Bps	basis points
Btu	British thermal unit
CAISO	California Independent System Operator
CIP	Capital Improvement Plan
CIR	Capital Investment Review
CDQ	Contract Demand Quantity
CGS	Columbia Generating Station
CHWM	Contract High Water Mark
CNR	Calibrated Net Revenue
COB	California-Oregon border
COI	California-Oregon Intertie
Commission	Federal Energy Regulatory Commission (see also “FERC”)
Corps	U.S. Army Corps of Engineers
COSA	Cost of Service Analysis
COU	consumer-owned utility
Council	Northwest Power and Conservation Council (see also “NPCC”)
COVID-19	coronavirus disease 2019
CP	Coincidental Peak
CRAC	Cost Recovery Adjustment Clause
CRFM	Columbia River Fish Mitigation
CSP	Customer System Peak
CT	combustion turbine
CWIP	Construction Work in Progress
CY	calendar year (January through December)
DD	Dividend Distribution
DDC	Dividend Distribution Clause
dec	decrease, decrement, or decremental
DERBS	Dispatchable Energy Resource Balancing Service
DFS	Diurnal Flattening Service

DNR	Designated Network Resource
DOE	Department of Energy
DOI	Department of Interior
DSI	direct-service industrial customer or direct-service industry
DSO	Dispatcher Standing Order
EE	Energy Efficiency
EESC	EIM Entity Scheduling Coordinator
EIM	Energy imbalance market
EIS	environmental impact statement
EN	Energy Northwest, Inc.
ESA	Endangered Species Act
ESS	Energy Shaping Service
e-Tag	electronic interchange transaction information
FBS	Federal base system
FCRPS	Federal Columbia River Power System
FCRTS	Federal Columbia River Transmission System
FELCC	firm energy load carrying capability
FERC	Federal Energy Regulatory Commission (see also "Commission")
FMM-IIE	Fifteen Minute Market – Instructed Imbalance Energy
FOIA	Freedom of Information Act
FORS	Forced Outage Reserve Service
FPS	Firm Power and Surplus Products and Services
FPT	Formula Power Transmission
FRP	Financial Reserves Policy
F&W	Fish & Wildlife
FY	fiscal year (October through September)
G&A	general and administrative (costs)
GARD	Generation and Reserves Dispatch (computer model)
GDP	Gross Domestic Product
GI	generation imbalance
GMS	Grandfathered Generation Management Service
GSP	Generation System Peak
GSR	Generation Supplied Reactive
GRSPs	General Rate Schedule Provisions
GTA	General Transfer Agreement
GWh	gigawatthour
HLH	Heavy Load Hour(s)
HYDSIM	Hydrosystem Simulator (computer model)
IE	Eastern Intertie
IIE	Instructed Imbalance Energy
IM	Montana Intertie
inc	increase, increment, or incremental
IOU	investor-owned utility
IP	Industrial Firm Power
IPR	Integrated Program Review

IR	Integration of Resources
IRD	Irrigation Rate Discount
IRM	Irrigation Rate Mitigation
IRPL	Incremental Rate Pressure Limiter
IS	Southern Intertie
kcfs	thousand cubic feet per second
kW	kilowatt
kWh	kilowatthour
LAP	Load Aggregation Point
LDD	Low Density Discount
LGIA	Large Generator Interconnection Agreement
LLH	Light Load Hour(s)
LMP	Locational Marginal Price
LPP	Large Project Program
LT	long term
LTF	Long-term Firm
Maf	million acre-feet
Mid-C	Mid-Columbia
MMBtu	million British thermal units
MNR	Modified Net Revenue
MRNR	Minimum Required Net Revenue
MW	megawatt
MWh	megawatthour
NCP	Non-Coincidental Peak
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NFB	**N**ational Marine Fisheries Service (NMFS) **F**ederal Columbia River Power System (FCRPS) **B**iological Opinion (BiOp)
NLSL	New Large Single Load
NMFS	National Marine Fisheries Service
NOAA Fisheries	National Oceanographic and Atmospheric Administration Fisheries
NOB	Nevada-Oregon border
NORM	Non-Operating Risk Model (computer model)
NWPA	Northwest Power Act/Pacific Northwest Electric Power Planning and Conservation Act
NWPP	Northwest Power Pool
NP-15	North of Path 15
NPCC	Northwest Power and Conservation Council (see also “Council”)
NPV	net present value
NR	New Resource Firm Power
NRFS	NR Resource Flattening Service
NRU	Northwest Requirements Utilities
NT	Network Integration
NTSA	Non-Treaty Storage Agreement

NUG	non-utility generation
OATT	Open Access Transmission Tariff
O&M	operations and maintenance
OATI	Open Access Technology International, Inc.
ODE	Over Delivery Event
OS	oversupply
OY	operating year (August through July)
P10	tenth percentile of a given dataset
PDCI	Pacific DC Intertie
PF	Priority Firm Power
PFp	Priority Firm Public
PFx	Priority Firm Exchange
PNCA	Pacific Northwest Coordination Agreement
PNRR	Planned Net Revenues for Risk
PNW	Pacific Northwest
POD	Point of Delivery
POI	Point of Integration or Point of Interconnection
POR	point of receipt
PPC	Public Power Council
PRSC	Participating Resource Scheduling Coordinator
PS	Power Services
PSC	power sales contract
PSW	Pacific Southwest
PTP	Point-to-Point
PUD	public or people's utility district
RAM	Rate Analysis Model (computer model)
RAS	Remedial Action Scheme
RCD	Regional Cooperation Debt
RD	Regional Dialogue
RDC	Reserves Distribution Clause
REC	Renewable Energy Certificate
Reclamation	U.S. Bureau of Reclamation
REP	Residential Exchange Program
REPSIA	REP Settlement Implementation Agreement
RevSim	Revenue Simulation Model
RFA	Revenue Forecast Application (database)
RHWM	Rate Period High Water Mark
ROD	Record of Decision
RPSA	Residential Purchase and Sale Agreement
RR	Resource Replacement
RRHL	Regional Residual Hydro Load
RRS	Resource Remarketing Service
RSC	Resource Shaping Charge
RSS	Resource Support Services
RT1SC	RHWM Tier 1 System Capability

RTD-IIE	Real-Time Dispatch – Instructed Imbalance Energy
RTIEO	Real-Time Imbalance Energy Offset
SCD	Scheduling, System Control, and Dispatch Service
SCADA	Supervisory Control and Data Acquisition
SCS	Secondary Crediting Service
SDD	Short Distance Discount
SILS	Southeast Idaho Load Service
Slice	Slice of the System (product)
SMCR	Settlements, Metering, and Client Relations
SP-15	South of Path 15
T1SFCO	Tier 1 System Firm Critical Output
TC	Tariff Terms and Conditions
TCMS	Transmission Curtailment Management Service
TDG	Total Dissolved Gas
TGT	Townsend-Garrison Transmission
TOCA	Tier 1 Cost Allocator
TPP	Treasury Payment Probability
TRAM	Transmission Risk Analysis Model
Transmission System Act	Federal Columbia River Transmission System Act
Treaty	Columbia River Treaty
TRL	Total Retail Load
TRM	Tiered Rate Methodology
TS	Transmission Services
TSS	Transmission Scheduling Service
UAI	Unauthorized Increase
UDE	Under Delivery Event
UFE	unaccounted for energy
UFT	Use of Facilities Transmission
UIC	Unauthorized Increase Charge
UIE	Uninstructed Imbalance Energy
ULS	Unanticipated Load Service
USFWS	U.S. Fish & Wildlife Service
VER	Variable Energy Resource
VERBS	Variable Energy Resource Balancing Service
VOR	Value of Reserves
VR1-2014	First Vintage Rate of the BP-14 rate period (PF Tier 2 rate)
VR1-2016	First Vintage Rate of the BP-16 rate period (PF Tier 2 rate)
WECC	Western Electricity Coordinating Council
WPP	Western Power Pool
WRAP	Western Resource Adequacy Program
WSPP	Western Systems Power Pool

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1. INTRODUCTION

1.1 Purpose of Study

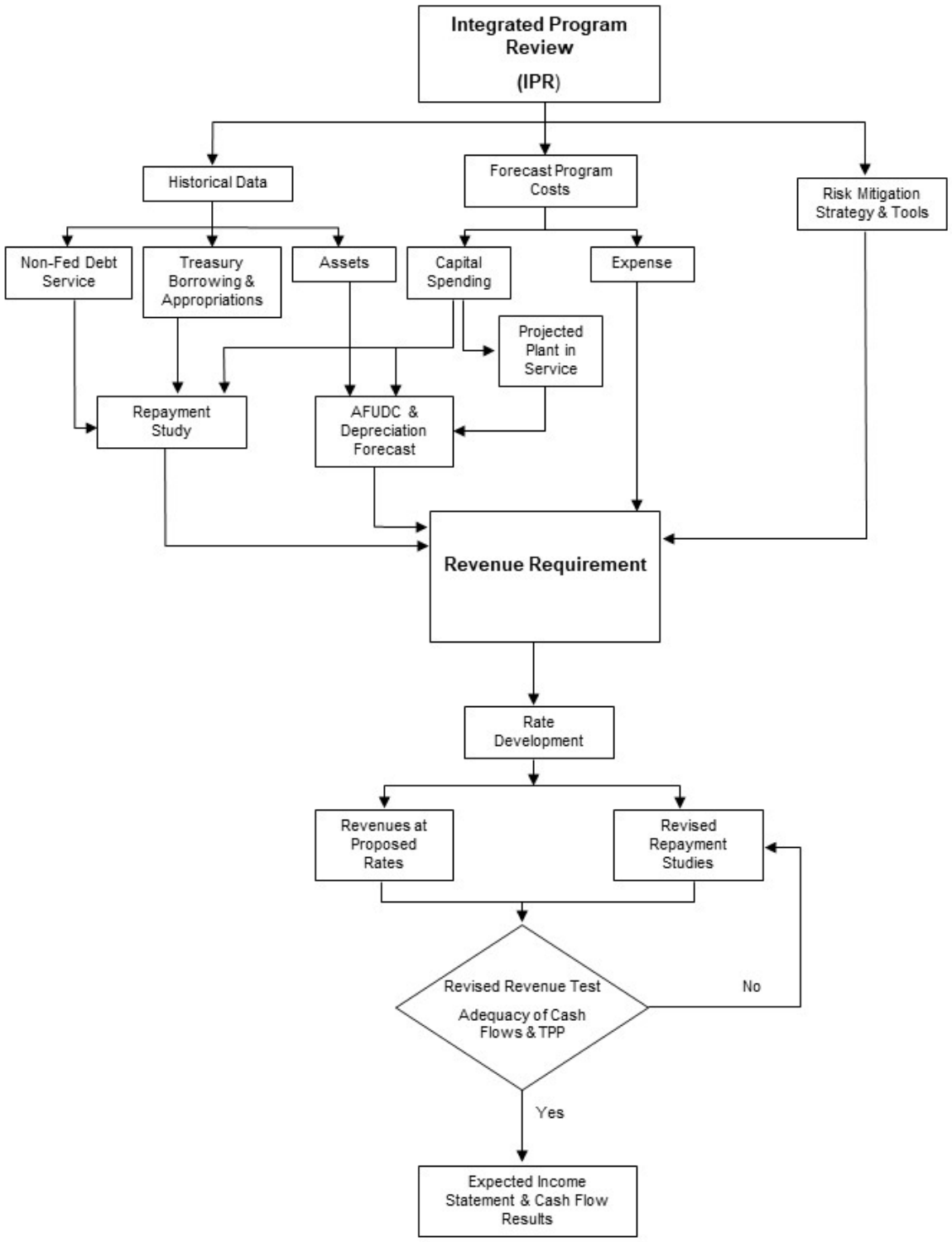
The purpose of the Power Revenue Requirement Study (Study) is to establish the revenues from wholesale power rates and other power sales and services that are necessary to recover, in accordance with sound business principles, the Federal Columbia River Power System (FCRPS) costs associated with the production, acquisition, marketing, and conservation of electric power. The revenue requirement developed in this Study includes recovery of the Federal investment in hydro generation, fish and wildlife, and conservation costs; Federal agencies' operations and maintenance (O&M) expenses allocated to power; capitalized contract expenses associated with non-Federal power suppliers, such as Energy Northwest (EN); other power purchase expenses, such as short-term power purchases; power marketing expenses; cost of transmission services necessary for the sale and delivery of FCRPS power; and all other generation-related costs incurred by the Administrator pursuant to law.

The cost evaluation period, as defined by the Federal Energy Regulatory Commission (Commission), is the period extending from the last year for which historical information is available through the proposed rate period. The cost evaluation period for this rate filing includes fiscal year (FY) 2023 and the proposed rate period, FY 2024-2025. This Study is based on generation revenue requirements that include the results of generation repayment studies. This Study does not include the revenue requirement or a cost recovery demonstration for Bonneville Power Administration's (BPA) transmission function. *See* Transmission Revenue Requirement Study, BP-24-FS-BPA-06.

This Study outlines the policies, forecasts, assumptions, and calculations used to determine the generation revenue requirement. The Power Revenue Requirement Study Documentation, BP-24-FS-BPA-02A, contains key technical assumptions and calculations, the results of the generation repayment studies, and further explanation of the repayment program and its outputs.

The revenue requirement for this Study is developed using a cost-accounting analysis comprised of three parts. First, repayment studies for the generation function are prepared to determine the schedule of amortization payments and to project annual interest expense for bonds and appropriations that fund the Federal investment in hydro generating resources, fish and wildlife recovery, conservation, and other generation assets. Repayment studies are conducted for each year of the rate period and extend over the 50-year repayment period. Second, generation operating expenses and Minimum Required Net Revenues (MRNR) are projected for each year of the rate period. Third, annual Planned Net Revenues for Risk (PNRR) are determined after taking into account risks and other risk mitigation measures, as described in the Power and Transmission Risk Study, BP-24-FS-BPA-05. In this rate proceeding, PNRR has been added to the revenue requirement as described in the settlement agreement. From these three steps, the revenue requirement is set at the revenue level necessary to fulfill cost recovery requirements. This process is depicted in Figure 1 below. Once the revenue requirement is completed, the costs identified are passed to the rate development process, where they are allocated to the appropriate cost pools and used to develop rates in the Power Rates Study (PRS), BP-24-FS-BPA-01.

Figure 1: Generation Revenue Requirement Process



Consistent with Department of Energy (DOE) Order RA 6120.2 and the standards of review of BPA's rates applied by the Commission, BPA must demonstrate the adequacy of both current and proposed rates. BPA conducts a current revenue test to determine whether revenues projected from current rates meet cost recovery requirements for the rate period and the repayment period. If the current revenue test indicates that cost recovery and risk mitigation requirements are met, current rates could be extended through the proposed rate approval period, although other reasons may exist for revising rates, such as the implementation of a new rate design or adoption of a settlement agreement. The current revenue test, described in Section 3.2 below, demonstrates that revenues from current rates will not recover the generation revenue requirement for the rate period.

The revised revenue test, which is performed after calculation of the proposed power rates, determines whether projected revenues from proposed rates meet cost recovery requirements and objectives for the rate test and repayment periods. The revised revenue test, described in Section 3.3 below, demonstrates that revenues from the proposed power rates will recover generation costs in the rate period and over the ensuing 50-year repayment period. Revenues from the proposed rates, together with risk mitigation tools, are sufficient to meet BPA's 95 percent Treasury Payment Probability (TPP) standard that all U.S. Treasury payments will be paid on time and in full, as discussed in the Power and Transmission Risk Study, BP-24-FS-BPA-05.

Table 1 (see Tables at the back of this document) summarizes the revised revenue test and shows projected net revenues from proposed power rates for FY 2024-2025. These net revenues are the lowest level necessary to achieve cost recovery when combined with other risk mitigation tools, given hydro condition uncertainty, market price volatility, and other risks. Table 2 shows planned generation amortization payments to the U.S. Treasury

for each year of the rate period and irrigation assistance payments that are due to be paid from power revenues. The amortization payments are divided into two categories. One is a base payment, which is BPA's repayment commitment to the Treasury. The second is a forecast conditional payment that will occur only if non-Federal refinancing actions occur during the rate period. The actual amount may vary depending on the size of the actual non-Federal debt action. If the refinancings do not occur, the conditional payment to the Treasury will not be made and the non-Federal debt will be repaid instead.

1.2 Legal Requirements

This section summarizes the statutory framework that guides the development of BPA's generation revenue requirement and the recovery of BPA's generation costs from the various users of the FCRPS, and the repayment policies BPA follows in the development of its revenue requirement.

1.2.1 Governing Authorities

BPA's revenue requirements are governed primarily by four legislative acts: the Bonneville Project Act of 1937, Pub.L. No. 75-329, 50 Stat. 731; the Flood Control Act of 1944, Pub.L. No. 78-534, 58 Stat. 890, amended 1977; the Federal Columbia River Transmission System Act (Transmission System Act) of 1974, Pub.L. No. 93-454, 88 Stat. 1376; and the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act), Pub.L. No. 96-501, 94 Stat. 2697 (1980). The Omnibus Consolidated Rescissions and Appropriations Act of 1996, Pub.L. No. 104-134, 110 Stat. 1321, also guides the development of BPA's revenue requirements. DOE Order "Power Marketing Administration Financial Reporting," RA 6120.2, issued by the Secretary of Energy, provides guidance to Federal power marketing administrations regarding repayment of the Federal investment. In addition, policies issued by the Commission provide guidance on

separate accounting for transmission system costs. *See, e.g., Bonneville Power Admin.*, 25 FERC ¶ 61,140 (1983).

1.2.1.1 Legal Requirements Governing BPA's Revenue Requirement

BPA's rates must be set to ensure that revenues are sufficient to recover costs. This requirement was first set forth in Section 7 of the Bonneville Project Act, codified at 16 U.S.C. § 832f (as amended in 1977), which provides that:

> Rate schedules shall be drawn having regard to the recovery (upon the basis of the application of such rate schedules to the capacity of the electric facilities of the Bonneville project) of the cost of producing and transmitting such electric energy, including the amortization of the capital investment over a reasonable period of years.

Id.

This cost recovery principle was repeated for Army reservoir projects in Section 5 of the Flood Control Act of 1944, 16 U.S.C. § 825s. In 1974, Section 9 of the Transmission System Act, 16 U.S.C. § 838g, expanded the cost recovery principle so that BPA's rates also would be set to recover:

> [P]ayments provided [in the Administrator's annual budget] . . . at levels to produce such additional revenues as may be required, in the aggregate with all other revenues of the Administrator, to pay when due the principal of, premiums, discounts, and expenses in connection with the issuance of and interest on all bonds issued and outstanding pursuant to [this Act,] and amounts required to establish and maintain reserve and other funds and accounts established in connection therewith.

Id.

The Northwest Power Act reiterates and clarifies the cost recovery principle. Section 7(a)(1) of the Northwest Power Act, 16 U.S.C. § 839e(a)(1), provides:

> The Administrator shall establish, and periodically review and revise, rates for the sale and disposition of electric energy and capacity and for the transmission of non-Federal power. Such rates shall be established and, as appropriate, revised to recover, in accordance with sound business principles, the costs associated with the acquisition, conservation, and transmission of electric power, including the amortization of the Federal investment in the Federal Columbia River Power System (including irrigation costs required to be repaid out of power revenues) over a reasonable period of years and the other costs and expenses incurred by the Administrator pursuant to this chapter and other provisions of law. Such rates shall be established in accordance with Sections 9 and 10 of the Federal Columbia River Transmission System Act (16 U.S.C. § 838), Section 5 of the Flood Control Act of 1944, and the provisions of this chapter.

Id.

Section 7(a)(2) of the Northwest Power Act, 16 U.S.C. § 839e(a)(2), provides that the Commission shall issue a confirmation and approval of BPA's rates upon a finding that the rates

(A) are sufficient to assure repayment of the Federal investment in the Federal Columbia River Power System over a reasonable number of years after first meeting the Administrator's other costs;

(B) are based upon the Administrator's total system costs; and

(C) insofar as transmission rates are concerned, equitably allocate the costs of the Federal transmission system between Federal and non-Federal power utilizing such system.

Development of the revenue requirement is a critical component of meeting the statutory cost recovery principles relevant to BPA. The costs associated with the FCRPS and associated services and expenses, as well as other costs incurred by the Administrator in furtherance of BPA's mission, are included in this Study.

1.2.1.2 The BPA Appropriations Refinancing Act

The Refinancing Act, 16 U.S.C. § 838l, part of the Omnibus Consolidated Rescissions and Appropriations Act of 1996, Pub.L. No. 104-134, 110 Stat. 1321, was enacted in April 1996. The Refinancing Act required that unpaid principal on BPA appropriations ("old capital investments") at the end of FY 1996 be reset at the present value of the principal and annual interest payments BPA would make to the U.S. Treasury for these obligations absent the Refinancing Act, plus $100 million. 16 U.S.C. § 838l(b). The Refinancing Act also specified that the new principal amounts of the old capital investments be assigned new interest rates from the Treasury yield curve prevailing at the time of the refinancing transaction. 16 U.S.C. § 838l(a)(6)(A). All of the appropriations refinanced by this Act have been repaid.

1.2.1.3 Allocation of FCRPS Costs

The individual generating projects comprising the FCRPS serve purposes in addition to power production, including navigation, irrigation, recreation, and flood control. The total costs of these Federal projects are allocated to the power revenue requirement and the appropriate cost pools, and are generally allocated according to the purposes they serve.

For projects that provide power generation to the FCRPS, this allocation has generally been accomplished pursuant to statutory direction. For example, Section 7 of the Bonneville Project Act, 16 U.S.C. § 832f, requires that BPA's rates be based on, *inter alia*, "an allocation of costs made by the [Secretary of Energy,]" and, insofar as costs of the Bonneville Project are concerned:

> [T]he Secretary of Energy may allocate to the costs of electric facilities such a share of the cost of facilities having joint value for the production of electric energy and other purposes as the power development may fairly bear as compared with other such purposes.

Id.

Similar allocations for U.S. Bureau of Reclamation (Reclamation) projects constructed pursuant to various authorizing statutes have been performed by the Secretary of the Interior under the authority of 43 U.S.C. § 485h(a)-(b). Cost allocations for projects constructed by the U.S. Army Corps of Engineers (Corps) have been performed by the Secretary of the Army and approved by the Federal Power Commission (the predecessor to the Federal Energy Regulatory Commission).

In general, an attempt is made to allocate the cost of each feature of a multipurpose dam to the purpose it serves. For example, the costs of powerhouses, penstocks, and other specific power-related facilities have been allocated to the generation function, whereas the costs of navigation locks have been allocated to navigation. Joint-use costs are allocated according to formulas that approximate the relative benefits provided by each function.

Thus, costs assigned to the power production functions include specific cost items whose sole purpose is power production, as well as the "power production share" of joint costs assigned to more than one purpose. Both types of costs are included in BPA's generation revenue requirement.

1.2.1.4 Section 4(h)(10)(C) Credit

The Northwest Power Act provides:

> The Administrator shall use the Bonneville Power Administration fund and the authorities available to the Administrator under this Act and other laws administered by the Administrator to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . . .

16 U.S.C. § 839b(h)(10)(A).

BPA is not obligated to reimburse the U.S. Treasury for the non-power portion of these fish and wildlife costs. Such non-power costs are instead allocated to the various project purposes by the BPA Administrator, in consultation with the Corps and Reclamation, pursuant to Section 4(h)(10)(C) of the Northwest Power Act. 16 U.S.C. § 839b(h)(10)(C). This allocation to various project purposes implements the principle that electric power consumers will bear no greater share of the costs of fish and wildlife mitigation than the power portion of the project. The legislative history of Section 4(h)(10)(C) illustrates how the expenditures by the Administrator for protection, mitigation, and enhancement of fish and wildlife at individual Federal projects in excess of the portion allocable to electric consumers are to be treated as a credit for electric consumers. H.R. Rep. No. 96-976, 2d Sess., pt. 2, at 45 (1980), *reprinted in* 1980 U.S.C.C.A.N. 5989, 6011. This principle is satisfied by treating expenditures on behalf of non-power purposes as other project costs. BPA receives a credit against its cash transfers to the U.S. Treasury for expenditures attributable to non-power purposes. BPA's initial funding of all the costs for fish and wildlife has the advantage of avoiding the need for funding the non-power portion of these costs through the annual appropriations process.

1.2.1.5 Tribal Compensation Credits

The Confederated Tribes of the Colville Reservation Grand Coulee Dam Settlement Act approves and ratifies the Settlement Agreement entered into by the United States and the Confederated Tribes of the Colville Reservation (Colville Tribes) related to the claims for a portion of the revenues from Grand Coulee Dam, and directs BPA to carry out its obligations under the Settlement Agreement. Pub.L. No. 103-436, 108 Stat. 4577 (1994). The Settlement Agreement obligates BPA to make annual payments to the Colville Tribes. Payments have been tied to BPA's average prices and the amount of annual generation from Grand Coulee Dam. Under the Refinancing Act, part of the Omnibus Consolidated

Rescissions and Appropriations Act of 1996, Pub.L. No. 104-134, 110 Stat. 1321, BPA receives annual credits from the U.S. Treasury against payments due the U.S. Treasury in order to defray a portion of the costs of making payments to the Colville Tribes.

The Spokane Tribe of Indians of the Spokane Reservation Equitable Compensation Act, Pub.L. No. 116-100, 133 Stat. 3255 (2019), directs BPA to make payments to the Spokane Tribe of Indians to compensate it for land lost due the construction of the Grand Coulee Dam. The annual compensation payments are set at 25 percent of the credits paid to the Confederated Tribes of the Colville Reservation until 2030 when the rate increases to 32 percent. Beginning in FY 2030, BPA will receive annually a credit of $2.6 million from the U.S. Treasury against payments due to the Treasury to defray a portion of the costs of making payments to the Spokane Tribe of Indians.

1.2.2 Repayment Requirements and Policies

1.2.2.1 Separate Repayment Studies

Section 10 of the Transmission System Act, 16 U.S.C. § 838h, and Section 7(a)(2)(C) of the Northwest Power Act, 16 U.S.C. § 839e(a)(2)(C), provide that the recovery of the costs of the Federal transmission system shall be equitably allocated between Federal and non-Federal power utilizing such system. In 1982, the Commission first directed BPA to provide accounting and repayment statements for its transmission system separate and apart from the accounting and repayment statements for the Federal generation system. *Bonneville Power Admin*., 20 FERC ¶ 61,142 (1982). The Commission required BPA to establish books of account for the Federal Columbia River Transmission System (FCRTS) separate from its generation books of account; explained that the FCRTS will be composed of all investments, including administrative and management costs, related to the transmission of electric power; and directed BPA to develop repayment studies for its

transmission function separate from those for its generation function. Such studies must set forth the date of each investment, the repayment date, and the amount repaid from transmission revenues. *Bonneville Power Admin.*, 26 FERC ¶ 61,096 (1984).

The Commission approved BPA's methodology for separate repayment studies in 1984. *Bonneville Power Admin*., 28 FERC ¶ 61,325 (1984). Thus, BPA has prepared separate repayment studies for its transmission and generation functions since 1984. This standard has enabled BPA to set power and transmission rates separately with minimal change in repayment policy and the process for developing each revenue requirement. This Study incorporates only the repayment study for the generation function for FY 2024-2025.

1.2.2.2 Repayment Schedules

The statutes applicable to BPA do not include specific directives for scheduling repayment of capital appropriations and bonds issued to Treasury other than a directive that the Federal investment be amortized over a reasonable period of years. BPA's repayment policy has been established largely through administrative interpretation of its statutory requirements.

There have been a number of changes in BPA's repayment policy over the years concurrent with expansion of the Federal system and changing conditions. In general, current repayment criteria were approved by the Secretary of the Interior on April 3, 1963. These criteria were refined and submitted to the Secretary and the Federal Power Commission in support of BPA's rate filing in September 1965.

The repayment policy was presented to Congress for its consideration for the authorization of the Grand Coulee Dam Third Powerhouse in June 1966. The underlying theory of

repayment was discussed in the House of Representatives' Report related to authorization of this project, H.R. Rep. No. 89-1409, 2d Sess., at 9-10 (1966). As stated in that report:

> Accordingly, [in a repayment study] there is no annual schedule of capital repayment. The test of the sufficiency of revenues is whether the capital investment can be repaid within the overall repayment period established for each power project, each increment of investment in the transmission system, and each block of irrigation assistance. Hence, repayment may proceed at a faster or slower pace from year-to-year as conditions change . . . .

Id.

This approach to repayment scheduling has the effect of averaging the year-to-year variations in costs and revenues over the repayment period. This results in a uniform cost per unit of power sold, and permits the maintenance of stable rates for extended periods. It also facilitates the orderly marketing of power and permits BPA customers to plan for the future with assurance.

The Secretary of the Interior issued a statement of power policy on September 30, 1970, setting forth general principles that reaffirmed the repayment policy as previously developed. The most pertinent of these principles were set forth in the Department of the Interior Manual, Part 730, Chapter 1:

> A. Hydroelectric power, although not a primary objective, will be proposed to Congress and supported for inclusion in multiple-purpose Federal projects when . . . it is capable of repaying its share of the Federal investment, including operation and maintenance costs and interest, in accordance with the law.
>
> B. Electric power generated at Federal projects will be marketed at the lowest rates consistent with sound financial management. Rates for the sale of Federal electric power will be reviewed periodically to assure their sufficiency to repay operating and maintenance costs and the capital investment within 50 years with interest that more accurately reflects the cost of money.

To achieve a greater degree of uniformity in repayment policy for all Federal power marketing administrations, the Deputy Assistant Secretary of the Department of the Interior (DOI) issued a memo on August 2, 1972, outlining (1) a uniform definition of the start of the repayment period for a particular project; (2) the method for including future replacement costs in repayment studies; and (3) a provision that the investment or obligation bearing the highest interest rate shall be amortized first, to the extent possible, while ensuring that BPA still complies with the prescribed repayment period established for each increment of investment.

A further clarification of the repayment policy was outlined in a joint memo of January 7, 1974, from the Assistant Secretary for Reclamation and Assistant Secretary for Energy and Minerals. This memo states that in addition to meeting the overall objective of repaying the Federal investment and obligations within the prescribed repayment periods, revenues shall be adequate, except in unusual circumstances, to repay annually all costs for O&M, purchased power, and interest.

On March 22, 1976, the DOI issued Chapter 4 of Part 730 of the DOI Manual to codify financial reporting requirements for the Federal power marketing agencies. It describes standard policies and procedures for preparing system repayment studies.
BPA and other Federal power marketing agencies were transferred to the newly established Department of Energy on October 1, 1977. DOE Organization Act, 42 U.S.C. § 7101 *et seq.* (1994). The DOE adopted the policies set forth in Part 730 of the DOI Manual by issuing Interim Management Directive No. 1701 on September 28, 1977, which subsequently was replaced by RA 6120.2, issued on September 20, 1979, and amended on October 1, 1983.

The repayment policy outlined in DOE Order RA 6120.2, paragraph 12, provides that BPA's total revenues from all sources must be sufficient to:

(1) Pay all annual costs of operating and maintaining the Federal power system;

(2) Pay the cost of obtaining power through purchase and exchange agreements, the cost for transmission services, and other costs during the year in which such costs are incurred;

(3) Pay interest each year on the unamortized portion of the commercial power investment financed with appropriated funds at the interest rates established for each generating project and for each annual increment of such investment in the BPA transmission system, except that recovery of annual interest expense may be deferred in unusual circumstances for short periods of time;

(4) Pay when due the interest and amortization portion on outstanding bonds sold to the U.S. Treasury;

(5) Repay:

- each dollar of power investments and obligations in the FCRPS generating projects within 50 years after the projects become revenue-producing (50 years has been deemed a "reasonable period" as intended by Congress, except for the Yakima-Chandler Project, which has a legislated amortization period of 66 years);
- each annual increment of transmission financed by Federal investments and obligations within the average service life of such transmission facilities (currently 40 years) or within a maximum of 50 years, whichever is less (BPA has interpreted

RA 6120.2 to require repayment of bonds sold to finance conservation to be within the average service lives of these projects, currently estimated to be five years, and for fish and wildlife facilities to be 15 years);

- the federally financed amount of each replacement within its service life up to a maximum of 50 years; and

(6) As required by Pub.L. No. 89-448, repay the portion of construction costs at Federal reclamation projects that is beyond the repayment ability of the irrigators, and which is assigned for repayment from commercial power revenues, within the same overall period available to the irrigation water users for making their payments on construction costs.

The typical repayment period for appropriated capital investments for generation is 50 years from the year in which the plant is placed in service. Appropriated transmission investments have due dates set at no more than 45 years. The Refinancing Act (see Section 1.2.1.2 above) overrides provisions in DOE Order RA 6120.2 related to determining interest during construction and assigning interest rates to Federal investments financed by appropriations. The Refinancing Act also contains provisions on repayment periods (due dates) for the refinanced investments.

DOE Order RA 6120.2 also requires that any outstanding deferred interest payments must be repaid before any planned amortization payments are made. Also, repayments are to be made by amortizing those Federal investments and obligations bearing the highest interest rate first, to the extent possible, while ensuring that BPA still completes repayment of each increment of Federal investment and obligation within its prescribed repayment period.

The generation function is also charged with recovering irrigation assistance costs, which are repaid without interest. Pub.L. No. 89-448 authorizes the payment of irrigation costs from revenues of the entire power system; such payments thus are functionalized to generation, consistent with the so-called "Basin Account" concept. Pub.L. No. 89-561, approved on September 7, 1966, amended Pub.L. No. 89-448 to provide several limitations on the repayment of irrigation costs from power revenues. These limitations are:

(1) the irrigation costs are to be paid from "net revenues" of the power system, with net revenues defined as those revenues over and above the amount needed to cover power costs and previously authorized irrigation payments;

(2) the construction of new Federal irrigation projects will be scheduled or deferred, if necessary, so that the repayment of the irrigation costs from power revenues will not require an increase in the BPA power rate level; and

(3) the total amount of irrigation costs to be repaid from power revenues shall not average more than $30 million per year in any period of 20 consecutive years.

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2. DEVELOPMENT OF THE GENERATION REVENUE REQUIREMENT

2.1 Forecast Cost Development

The development of forecast program costs occurs outside the rate process. For the FY 2024-2025 rate period, it began in June 2022, when BPA hosted the BP-24 Integrated Program Review (IPR) workshops. These workshops provided customers and constituents an opportunity to examine, understand, and comment on BPA's cost projections and capital investments for BPA's power and transmission functions.

BPA began the IPR discussion with the release of the IPR initial publication in June 2022, containing an overview of Power Services, Transmission Services, and Corporate forecast capital and program costs for FY 2024-2025 (the cost evaluation period). The initial publication and workshop discussed forecast costs and program objectives for the FY 2024-2025 rate period, with comparisons to previous IPR costs. The initial report also included capital cost projections for FY 2024-2025.

BPA held workshops in June 2022 to discuss the forecast capital and program costs of many program areas, including the Columbia Generating Station (CGS); Corps; Reclamation; BPA's energy efficiency, transmission, and fish and wildlife programs; and BPA's Information Technology program. After considering the comments received, BPA released a final IPR closeout report in October 2022.

This Study incorporates the forecast costs identified in the BP-24 IPR final closeout report, which can be found on BPA's public website: https://www.bpa.gov/about/finance/bp-24-ipr.

2.2 Capital Funding

The forecast of BPA's capital investments for FY 2024-2025 used in setting the BP-24 power rates was produced in the IPR process. The following section describes these forecasts, recognizing that the timing of some planned capital spending may be stretched into the following rate period. FCRPS capital investments include Corps, Reclamation, and BPA capital investments and third-party resource investments for which debt is secured by BPA (capitalized contracts). Projections of current FCRPS capital outlays, including the allowance for funds used during construction (AFUDC), total $706 million for the FY 2024-2025 rate period. These investments include:

- improvements and maintenance needed to increase reliability, safety, and performance at the CGS nuclear plant;
- improvements and maintenance needed to improve reliability of the Federal hydro system;
- investment in fish and wildlife mitigation measures;
- investment in conservation activities; and
- investment in capital equipment.

2.2.1 Bonds Issued to the U.S. Treasury

Bonds issued to the U.S. Treasury are the source of capital that will be used to finance BPA's FY 2024-2025 capital program and Corps and Reclamation investments that BPA has agreed to direct-fund under Section 2406 of the Energy Policy Act of 1992, Pub.L. No. 102-486, 106 Stat. 2776, *amending* 16 U.S.C. § 839d-1. These expenditures include a total capital projection of $680 million, which is comprised of BPA Fish and Wildlife direct program investments ($83 million), BPA capital equipment ($16 million), and generating resource investments of the Corps and Reclamation ($581 million) during FY 2024-2025.

Interest rates on bonds issued by BPA to the Treasury are set at market interest rates comparable to interest rates on securities issued by other agencies of the U.S. government. Interest rates on bonds projected to be issued are included in Chapter 6 of the Power Revenue Requirement Study Documentation, BP-24-FS-BPA-02A.

2.2.2 Federal Appropriations

In general, the Study reflects that all Corps and Reclamation capital investments in the FCRPS will be financed by Federal appropriations unless they are direct-funded by BPA. This Study includes projected appropriated investments totaling $26 million during the rate period for Corps fish and wildlife mitigation and recovery measures through the Columbia River Fish Mitigation (CRFM) project. No other appropriations-financed investments are forecast for the rate period. Capital investments funded by this source do not become BPA's obligation to repay until they are placed in service.

The interest rate forecast for appropriated capital investments expected to be placed in service is found in Chapter 6 of the Power Revenue Requirement Study Documentation, BP-24-FS-BPA-02A. Each new capital investment is assigned a rate from the U.S. Treasury yield curve prevailing in the month prior to the beginning of the fiscal year in which the new investment is placed in service.

2.2.3 Third-Party Debt

Third-party debt differs from U.S. Treasury debt in that entities other than BPA or the U.S. Treasury issue the debt. BPA's promise to make payments serves as security for bonds or other debt that the third party issues, resulting in wider market access and potentially more favorable interest rates for the seller. Examples of acquisitions financed in this way

include the Energy Northwest, Inc. (EN) WNP-1, WNP-3, and CGS nuclear power projects and the Lewis County Public Utility District Hydroelectric Project (Cowlitz Falls).

2.2.4 Revenues from Rates

As a means to fund capital investments in lieu of borrowing, the revenue requirement assumes that $34 million per year of the capital program is funded with current revenues consistent with the implementation of the Sustainable Capital Financing Policy. See Sustainable Capital Financing Policy Record of Decision (July 2022), *available at* https://www.bpa.gov/-/media/Aep/about/publications/records-of-decision/rod-20220729-sustainable-capital-financing-policy.pdf.

2.2.5 Prepayment Program

The prepayment program involves customers prepaying future power bills by purchasing blocks of revenue credits that would be applied to billings through FY 2028, when the current Regional Dialogue contracts expire. Four customers chose to participate in the program, prepaying revenues of $340 million.

2.3 Regional Cooperation Debt

Regional Cooperation Debt (RCD) is debt held by EN that is related to its one operational, and two terminated, nuclear plants. BPA has worked with EN to refinance RCD as it comes due. The first phase of refinancings allowed BPA to repay a like amount of higher interest rate Federal debt to reduce BPA's total debt service. The second phase, which began in FY 2022, allows BPA to accelerate the repayment of U.S. Treasury bonds to extend access to limited Treasury borrowing authority. The Initial Proposal includes an assumption that all RCD coming due in FY 2024-2025 will be refinanced allowing for additional Federal repayment of $717 million. This additional repayment is conditional and may vary

depending on whether the RCD refinancing occurs and the final size of the refinancing transaction.

2.4 Modeling of BPA's Repayment Obligations

Repayment studies are performed as part of the process for determining revenue requirements. The studies establish a schedule of annual U.S. Treasury amortization for the rate period and the resulting interest payments. Each repayment study covers a rate test year and the ensuing repayment period, which extends to the last year by which all outstanding and projected obligations must be repaid. For generation repayment studies, that period is 50 years.

In conducting the repayment studies, BPA includes as fixed inputs the annual debt service payments associated with its capitalized contract obligations and the fixed annual payments associated with long-term energy resource acquisition contracts. All outstanding and projected generation repayment obligations for appropriated investments (including irrigation assistance) and bonds issued to the U.S. Treasury are included to be scheduled for repayment. Funding for replacements projected during the repayment period is also included in the repayment study, consistent with the requirements of RA 6120.2.

Appropriations and bonds are scheduled to be repaid within the expected useful life of the associated facility or 50 years, whichever is less. Corps and Reclamation project replacements funded by appropriations and placed in service in 1994 or later have repayment periods that are set at the weighted average service life of all replacements going into service at that project in that year.

Bonds issued by BPA to the U.S. Treasury have varying terms, taking into account the estimated average service lives for investments, prudent financing, and cash management factors. Generally, bonds are usually issued with a provision that allows them to be called after a certain time. Bonds may also be issued with no early call provision. Early retirement of eligible bonds may require that BPA pay a bond premium to the Treasury. Bonds may also be called and repaid at a discount. In addition, the interest rate that BPA pays on callable bonds is higher than the interest rate on non-callable bonds issued at the same time.

Bonds are issued primarily to finance BPA's Fish and Wildlife Program, and Corps and Reclamation investments that are direct-funded by BPA. These bonds are repaid within the terms and conditions of each bond issued to the U.S. Treasury. Bonds to finance fish and wildlife capital investments are issued with maturities not to exceed 15 years, the same period over which BPA amortizes these capital investments. Corps and Reclamation direct-funding bonds are issued with maturities not to exceed 30 years, although they can be refinanced within the 50-year repayment period.

Based on these parameters, the repayment study establishes a schedule of planned amortization payments and resulting interest expense by determining the lowest levelized debt service stream necessary to repay all generation obligations within the allowable repayment period.

For further discussion of the repayment program, see Power Revenue Requirement Study Documentation, BP-24-FS-BPA-02A, Chapter 13.

2.5 Change to Plant and Debt Assumptions

This revenue requirement study includes two changes. First, the amortization period of the Cowlitz Falls non-Federal asset has been shortened to 2032 to match the term of the contract between BPA and the owner. Previously, the amortization period was through 2036 when the license expired. Second, a forecast of the Grand Coulee switchyard transfer is anticipated to be completed in FY 2023. Reclamation will transfer ownership of switchyard assets located at the Grand Coulee dam to BPA. The assets, with a net book value of approximately $124 million, are currently part of Power's asset base. The assets will be functionalized to Transmission and become part of Transmission's asset base. BPA will also transfer debt, estimated to be $109 million, from Power to Transmission. This amount of debt is equal to the net book value of the transferred assets multiplied by Power's debt-to-asset ratio.

2.6 Information Used by Other Studies

This Study produces information that is used in other studies. The information provided to the Rate Analysis Model (RAM2024) includes itemized program spending data; the allocation of net interest, MRNR, and PNRR to cost pools; and the allocation of interest income between the Composite cost pool and the Non-Slice cost pool.

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3. GENERATION REVENUE REQUIREMENT

3.1 Revenue Requirement

For each year of a rate period, BPA prepares two tables that are used to determine the revenue requirement. The first table, the Income Statement, includes projections of Total Expenses, PNRR, and if necessary, an MRNR component. The second table, the Statement of Cash Flow, shows the analysis used to determine MRNR and the cash available for risk mitigation.

The Income Statement, Table 3, displays the components of the annual revenue requirement, which include Total Operating Expenses (Line 19), Total Other Expense and (Income), formerly called Net Interest Expense (Line 34), and Total Planned Net Revenues (Line 40), which consists of MRNR (Line 38) and PNRR (Line 39). The sum of these three major components is the Total Revenue Requirement (Line 42).

The amounts shown in Total Operating Expenses (Line 19) are taken primarily from the IPR closeout report, outside the rate case process. Other expenses, such as power purchases, augmentation, transmission acquisition and ancillary services, and net interest, are modeled within the rate case. The MRNR (Line 38) is added to the income statement as a result of analysis of the Statement of Cash Flow, Table 4. MRNR may be necessary to ensure that revenue requirements are sufficient to cover all cash requirements, including annual amortization of the Federal investment as determined in the power repayment studies, and any other cash requirements, such as irrigation assistance payments or the repayment of non-Federal debt. If cash flows are not adequate, MRNR is added so that rates will be forecast to produce adequate cash flow.

The Statement of Cash Flow (Table 4) analyzes annual cash inflow and outflow. Cash Provided by Operating Activities (Line 14), driven by the Non-Cash Items shown in Lines 4-11, must be sufficient to compensate for the difference between Cash Used for Investment Activities (Line 20) and Cash Provided by Borrowing and Appropriations (Line 30). If cash provided by current operations is not sufficient, MRNR must be included in revenue requirements to accommodate the shortfall, yielding at least zero Annual Increase in Cash (Line 32). Any MRNR amounts shown on the Statement of Cash Flow (Line 2) are then incorporated in the Income Statement (Table 3, Line 38).

3.2 Current Revenue Test

Consistent with DOE Order RA 6120.2, the continuing adequacy of existing rates must be tested annually. The current revenue test, exhibited in Tables 5 and 6, determines whether the revenue expected from current rates will meet cost recovery requirements during the FY 2024-2025 rate period and the ensuing repayment period. Revenue at current rates can be found in the Power Rates Study (PRS) Documentation, BP-24-FS-BPA-01A, Table 9.1.

The result of the current revenue test demonstrates that projected revenue from current rates is inadequate to meet the cost recovery criteria of Order RA 6120.2. *See* Table 7, Column L. If revenues from current rates are adequate in all years, current rates could be extended, although other reasons may exist for revising rates, such as the implementation of a new rate design or adoption of a settlement agreement.

3.3 Revised Revenue Test

Consistent with DOE Order RA 6120.2, the adequacy of proposed rates must be demonstrated. The revised revenue test determines whether the revenue projected from proposed rates will meet cost recovery requirements for the rate period. The revised

revenue test is conducted using the forecast of revenue under proposed rates. *See* PRS Documentation, BP-24-FS-BPA-01A, Table 9.2.

For the rate period, the demonstration of the adequacy of proposed rates is shown in Tables 8 and 9 in this study. Table 9 tests the sufficiency of the resulting net revenues from Table 8 (Line 40) for making the planned annual amortization and irrigation assistance payments. Whether net revenues are sufficient is demonstrated by the annual increase (or decrease) in cash (Table 9, Line 33). The annual cash flow must be at least zero to demonstrate the adequacy of the projected revenues to cover all cash requirements.

The results of the revised revenue test demonstrate that proposed rates are adequate to fulfill the basic cost recovery requirements for the rate period, FY 2024-2025. With the successful test of proposed rates, the rate development process ends.

3.4 Repayment Test at Proposed Rates

Table 10, Generation Revenue from Proposed Rates, demonstrates whether projected revenue from proposed rates is adequate to meet the cost recovery criteria of DOE Order RA 6120.2 over the repayment period. The data are presented in a format consistent with the revised revenue tests, Tables 8 and 9, and the separate accounting analysis that is an attachment to the filing letter sent to the Commission. The focal point of Table 10 is the net position (Column L), which is the amount remaining after meeting annual expenses requiring cash for the rate period and repayment of the Federal investment. Thus, if the net position is zero or greater in each of the years of the rate period through the repayment period, the projected revenues demonstrate BPA's ability to repay the Federal investment in the FCRPS within the allowable repayment period. As shown in Column L, the resulting

net position is zero or greater for each year of the rate period and in each year of the repayment period.

The historical data on this table were taken from BPA's separate accounting analysis. The rate period data were developed specifically for this Study. The repayment period data are presented consistent with the requirements of RA 6120.2.

Typically, the test of revenue sufficiency through the repayment period uses expenses from the last year of the rate period. As has been done since the WP-07 rate proceeding, expenses for the CGS nuclear plant are normalized because it is on a two-year refueling cycle. FY 2025, the last year of the rate period, is a refueling year for CGS, which increases O&M costs for the facility and increases BPA's power purchase costs to make up for the loss of generation during the refueling. The projection of these outage costs in every year of the repayment period would misrepresent the costs associated with the CGS refueling cycle. For the purposes of this revenue test, these CGS costs for FY 2024 and FY 2025 have been averaged to produce an average annual cost for the operation of CGS for the rate period. Any augmentation purchases are also averaged in this fashion because of the higher costs in FY 2025 to make up for lost CGS generation.

Table 11, Amortization of Generation Investments Over Repayment Period, summarizes the amortization of Federal investments over the repayment period. It displays the total investment costs through the cost evaluation period, forecast replacements required to maintain the system through the repayment period, the cumulative dollar amount of investment placed in service, scheduled amortization payments for each year of the repayment period (due and discretionary), unamortized investments including replacements through the repayment period, unamortized obligations as determined by a

term schedule (*i.e.,* if all obligations were paid at maturity and never early), predetermined amortization payments, and the unamortized amount of irrigation assistance for each year of the repayment period.

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TABLES

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Table 1: Projected Net Revenues from Projected Rates
($000s)

		A 2024	B 2025	C Average
1	Projected Revenues from Proposed Rates	$ 3,121,402	$ 3,167,817	$3,144,610
2	Projected Expenses	2,794,963	2,925,661	2,860,312
3	Net Revenues	$ 326,439	$ 242,156	$ 284,298

Table 2: Planned Federal Amortization & Irrigation Assistance Payments
($000s)

Base Amortization

	Fiscal Year	A Bond Amortization	B Appropriations Amortization	C Irrigation Assistance	D Total
1	2024	$100,818	$0	$8,067	$108,885
2	2025	$88,007	-	$14,006	102,013
3	Total	$188,825	$0	$22,073	$210,898

Conditional Amortization

	Fiscal Year	A Bond Amortization	B Appropriations Amortization	C Irrigation Assistance	D Total
4	2024	80,382	278,799	$0	$359,181
5	2025	148,856	209,137	-	357,993
6	Total	$229,238	$487,936	$0	$717,174

Total Amortization

	Fiscal Year	A Bond Amortization	B Appropriations Amortization	C Irrigation Assistance	D Total
7	2024	$181,200	$278,799	$8,067	$468,066
8	2025	236,863	209,137	14,006	460,006
9	Total	$418,063	$487,936	$22,073	$928,072

Table 3: Generation Revenue Requirement Income Statement
($000s)

		A 2024	B 2025
1	OPERATING EXPENSES		
2	POWER SYSTEM GENERATION RESOURCES		
3	OPERATING GENERATION RESOURCES	741,372	806,672
4	OPERATING GENERATION SETTLEMENT PAYMENTS	27,749	27,500
5	NON-OPERATING GENERATION	2,341	2,375
6	CONTRACTED POWER PURCHASES	195,571	274,316
7	AUGMENTATION POWER PURCHASES	0	0
8	EXCHANGES & SETTLEMENTS	274,777	274,820
9	RENEWABLE GENERATION	25,967	26,767
10	GENERATION CONSERVATION	113,681	113,744
11	POWER NON-GENERATION OPERATIONS	82,523	83,801
12	PS TRANSMISSION ACQUISITION AND ANCILLARY SERVICES	209,421	210,126
13	F&W/USF&W/PLANNING COUNCIL	313,942	313,572
14	GENERAL AND ADMINISTRATIVE/SHARED SERVICES	112,893	116,333
15	OTHER INCOME, EXPENSES AND ADJUSTMENTS	0	0
16	DEPRECIATION	139,703	143,600
17	AMORTIZATION	312,487	316,066
18	ACCRETION	40,043	41,798
19	TOTAL OPERATING EXPENSES	2,592,471	2,751,491
20			
21	OTHER EXPENSE AND (INCOME)		
22	INTEREST		
23	APPROPRIATED FUNDS	34,236	23,203
24	CAPITALIZATION ADJUSTMENT	(45,937)	(45,937)
25	BONDS ISSUED TO U.S. TREASURY	39,728	43,660
26	BOND PREMIUMS/DISCOUNTS	11,090	605
27	NON-FEDERAL INTEREST	234,544	230,535
28	AMORTIZATION OF NON-FEDERAL PREMIUMS/DISCOUNTS	(34,767)	(38,006)
29	AMORTIZATION OF COST OF ISSUANCE	500	500
30	ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION	(17,821)	(18,137)
31	INTEREST CREDIT ON CASH RESERVES	(3,418)	(5,775)
32	INTEREST INCOME ON DECOMMISSIONING TRUST	(11,469)	(12,191)
33	OTHER INCOME (NET)	(4,335)	(4,608)
34	TOTAL OTHER EXPENSE AND (INCOME)	202,350	173,849
35			
36	TOTAL EXPENSES	2,794,821	2,925,340
37			
38	MINIMUM REQUIRED NET REVENUE 1/	155,158	155,327
39	PLANNED NET REVENUE FOR RISK	129,000	129,000
40	PLANNED NET REVENUE, TOTAL (38+39)	284,158	284,327
41			
42	**TOTAL REVENUE REQUIREMENT**	**3,078,979**	**3,209,667**

1/ See note on Statement of Cash Flows

Table 4: Generation Revenue Requirement Statement of Cash Flow

($000s)

		A 2024	B 2025
1	CASH FROM OPERATING ACTIVITIES		
2	MINIMUM REQUIRED NET REVENUE 1/	155,158	155,327
3	NON-CASH ITEMS:		
4	NON-FEDERAL INTEREST	5,694	4,539
5	DEPRECIATION AND AMORTIZATION	452,190	459,666
6	ACCRETION	40,043	41,798
7	NON-CASH EXPENSES	(15,804)	(16,799)
8	CAPITALIZATION ADJUSTMENT	(45,937)	(45,937)
9	NON-CASH REVENUES	(30,600)	(30,600)
10	AMORTIZATION OF NON-FEDERAL PREMIUMS/DISCOUNTS	(34,767)	(38,006)
11	AMORTIZATION OF COST OF ISSUANCE	500	500
12	CASH CONTRIBUTION TO DECOMMISSIONING TRUST FUNDS	(15,100)	(15,100)
13	CASH FREE UP	17,600	0
14	CASH PROVIDED BY OPERATING ACTIVITIES	528,976	515,388
15			
16	CASH FROM INVESTMENT ACTIVITIES		
17	INVESTMENT IN:		
18	UTILITY PLANT (INCLUDING AFUDC)	(274,444)	(280,651)
19	FISH & WILDLIFE	(41,000)	(41,000)
20	CASH USED FOR INVESTMENT ACTIVITIES	(315,444)	(321,651)
21			
22	CASH FROM BORROWING AND APPROPRIATIONS:		
23	INCREASE IN BONDS ISSUED TO U.S. TREASURY	268,257	274,710
24	REPAYMENT OF BONDS ISSUED TO U.S. TREASURY	(181,200)	(236,863)
25	INCREASE IN FEDERAL CONSTRUCTION APPROPRIATIONS	13,444	12,651
26	REPAYMENT OF FEDERAL CONSTRUCTION APPROPRIATIONS	(278,799)	(209,137)
27	REPAYMENT OF NON-FEDERAL OBLIGATIONS	(27,167)	(21,093)
28	CUSTOMER PROCEEDS	0	0
29	PAYMENT OF IRRIGATION ASSISTANCE	(8,067)	(14,006)
30	CASH PROVIDED BY BORROWING AND APPROPRIATIONS	(213,532)	(193,738)
31			
32	ANNUAL INCREASE (DECREASE) IN CASH	0	0
33			
34	PLANNED NET REVENUE FOR RISK	129,000	129,000
35			
36	TOTAL ANNUAL INCREASE (DECREASE) IN CASH	129,000	129,000

1/ Minimum required net revenues are added to ensure suffcient cash flow is available to repay the federal investment.

Table 5: Generation Current Revenue Test Income Statement

($000s)

		A	B
		2024	2025
1	REVENUES FROM CURRENT RATES	2,956,126	2,898,053
2			
3	OPERATING EXPENSES		
4	POWER SYSTEM GENERATION RESOURCES		
5	OPERATING GENERATION	741,372	806,672
6	OPERATING GENERATION SETTLEMENTS	27,749	27,500
7	NON-OPERATING GENERATION	2,341	2,375
8	CONTRACTED POWER PURCHASES	195,571	274,316
9	AUGMENTATION POWER PURCHASES	0	0
10	EXCHANGES & SETTLEMENTS	274,777	274,820
11	RENEWABLE GENERATION	25,967	26,767
12	GENERATION CONSERVATION	113,681	113,744
13	POWER NON-GENERATION OPERATIONS	82,523	83,801
14	PS TRANSMISSION ACQUISITION AND ANCILLARY SERVICES	209,421	210,126
15	F&W/USF&W/PLANNING COUNCIL	313,942	313,572
16	BPA INTERNAL SUPPORT	112,893	116,333
17	OTHER INCOME, EXPENSES AND ADJUSTMENTS	0	0
18	DEPRECIATION	139,703	143,600
19	AMORTIZATION	312,487	316,066
20	ACCRETION	40,043	41,798
21	TOTAL OPERATING EXPENSES	2,592,471	2,751,491
22			
23	OTHER EXPENSE AND (INCOME)		
24	INTEREST		
25	APPROPRIATED FUNDS	34,236	23,203
26	CAPITALIZATION ADJUSTMENT	(45,937)	(45,937)
27	BONDS ISSUED TO U.S. TREASURY	39,728	43,660
28	PREMIUMS/DISCOUNTS	11,090	605
29	NON-FEDERAL INTEREST	234,544	230,535
30	AMORTIZATION OF NON-FEDERAL PREMIUMS/DISCOUNTS	(34,767)	(38,006)
31	AMORTIZATION OF COST OF ISSUANCE	500	500
32	ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION	(17,821)	(18,137)
33	INTEREST CREDIT ON CASH RESERVES	(2,942)	(3,776)
34	INTEREST INCOME ON DECOMMISSIONING TRUST	(4,335)	(12,191)
35	OTHER INCOME (NET)	(4,335)	(4,608)
36	TOTAL OTHER EXPENSE AND (INCOME)	209,961	175,848
37			
38	TOTAL EXPENSES	2,802,432	2,927,339
39			
40	NET REVENUES	153,694	(29,286)

Table 6: Generation Current Revenue Test Statement of Cash Flow

($000s)

		A 2024	B 2025
1	CASH PROVIDED BY OPERATING ACTIVITIES		
2	NET REVENUES	153,694	(29,286)
3	NON-CASH ITEMS:		
4	NON-FEDERAL INTEREST	5,694	4,539
5	DEPRECIATION AND AMORTIZATION	452,190	459,666
6	ACCRETION	40,043	41,798
7	NON-CASH EXPENSES (INTEREST INCOME & GAINS/LOSSES)	(15,804)	(16,799)
8	CAPITALIZATION ADJUSTMENT	(45,937)	(45,937)
9	NON-CASH REVENUES	(30,600)	(30,600)
10	AMORTIZATION OF NON-FEDERAL PREMIUMS/DISCOUNTS	(34,767)	(38,006)
11	AMORTIZATION OF COST OF ISSUANCE	500	500
12	CASH CONTRIBUTION TO DECOMMISSIONING TRUST	(15,100)	(15,100)
13	CASH FREE UP	17,600	0
14	CASH FLOW ADJUSTMENT (RESERVE)/APPLICATION	0	0
15	CASH PROVIDED BY OPERATING ACTIVITIES	527,513	330,775
16			
17	CASH USED FOR INVESTMENT ACTIVITIES		
18	INVESTMENT IN:		
19	FEDERAL UTILITY PLANT (INCLUDING AFUDC)	(274,444)	(280,651)
20	FISH & WILDLIFE	(41,000)	(41,000)
21	CASH USED FOR INVESTMENT ACTIVITIES	(315,444)	(321,651)
22			
23	CASH FROM (AND USED FOR) FINANCING ACTIVITIES		
24	INCREASE IN TREASURY DEBT	268,257	274,710
25	REPAYMENT OF TREASURY DEBT	(181,200)	(236,863)
26	INCREASE IN FEDERAL CONSTRUCTION APPROPRIATIONS	13,444	12,651
27	REPAYMENT OF FEDERAL CONSTRUCTION APPROPRIATIONS	(278,799)	(209,137)
28	REPAYMENT OF NON-FEDERAL OBLIGATIONS	(27,167)	(21,093)
29	CUSTOMER PROCEEDS	0	0
30	PAYMENT OF IRRIGATION ASSISTANCE	(8,067)	(14,006)
31	CASH USED FOR FINANCING ACTIVITIES	(213,532)	(193,738)
32			
33	ANNUAL INCREASE (DECREASE) IN CASH	(1,464)	(184,613)

Table 7: Generation Revenue from Current Rates – Results Through the Repayment Period
($000s)

		A	B	C	D	E	F
	YEAR COMBINED CUMULATIVE	REVENUES (STATEMENT A)	OPERATION & MAINTENANCE (STATEMENT E)	PURCHASE AND EXCHANGE POWER (STATEMENT E)	DEPRECIATION	NET INTEREST (STATEMENT D)	NET REVENUES (F=A-B-C-D-E)
1	2017	93,566,686	22,293,538	54,914,506	6,394,201	8,030,073	1,934,369
2	GENERATION						
3	2018	2,862,774	1,117,823	683,251	221,031	73,686	766,983
4	2019	2,817,848	1,129,514	1,139,850	225,211	65,484	257,789
5	2020	2,814,257	1,117,823	683,251	478,985	279,085	255,113
6	2021	2,933,198	1,132,498	854,827	488,363	59,831	397,679
7	2022	3,701,138	1,175,087	946,729	502,247	218,283	858,793
8	COST EVALUATION						
9	PERIOD						
10	2023	2,756,984	1,224,491	707,257	499,837	227,912	97,487
11	RATE APPROVAL						
12	PERIOD						
13	2024	2,956,126	1,289,069	811,169	492,233	209,961	153,694
14	2025	2,898,053	1,303,492	946,534	501,465	175,848	(29,286)
15	REPAYMENT						
16	PERIOD						
17	2026	2,898,053	1,303,492	946,534	501,465	209,362	(62,800)
18	2027	2,898,053	1,303,492	946,534	501,465	192,820	(46,258)
19	2028	2,898,053	1,303,492	946,534	501,465	174,147	(27,585)
20	2029	2,898,053	1,303,492	946,534	501,465	156,749	(10,187)
21	2030	2,898,053	1,303,492	946,534	501,465	138,451	8,111
22	2031	2,898,053	1,303,492	946,534	501,465	135,376	11,187
23	2032	2,898,053	1,303,492	946,534	501,465	110,455	36,107
24	2033	2,898,053	1,303,492	946,534	501,465	111,422	35,140
25	2034	2,898,053	1,303,492	946,534	501,465	102,490	44,072
26	2035	2,898,053	1,303,492	946,534	501,465	16,182	130,381
27	2036	2,898,053	1,303,492	946,534	501,465	32,694	113,868
28	2037	2,898,053	1,303,492	946,534	501,465	78,106	68,457
29	2038	2,898,053	1,303,492	946,534	501,465	63,382	83,180
30	2039	2,898,053	1,303,492	946,534	501,465	46,779	99,783
31	2040	2,898,053	1,303,492	946,534	501,465	32,360	114,202
32	2041	2,898,053	1,303,492	946,534	501,465	17,942	128,621
33	2042	2,898,053	1,303,492	946,534	501,465	4,102	142,461
34	2043	2,898,053	1,303,492	946,534	501,465	(10,300)	156,862
35	2044	2,898,053	1,303,492	946,534	501,465	(27,928)	174,490
36	2045	2,898,053	1,303,492	946,534	501,465	(40,787)	187,350
37	2046	2,898,053	1,303,492	946,534	501,465	(46,042)	192,604
38	2047	2,898,053	1,303,492	946,534	501,465	(45,238)	191,800
39	2048	2,898,053	1,303,492	946,534	501,465	(44,622)	191,184
40	2049	2,898,053	1,303,492	946,534	501,465	(43,987)	190,549
41	2050	2,898,053	1,303,492	946,534	501,465	(43,326)	189,888
42	2051	2,898,053	1,303,492	946,534	501,465	(42,643)	189,205
43	2052	2,898,053	1,303,492	946,534	501,465	(41,934)	188,496
44	2053	2,898,053	1,303,492	946,534	501,465	(41,199)	187,761
45	2054	2,898,053	1,303,492	946,534	501,465	(40,439)	187,001
46	2055	2,898,053	1,303,492	946,534	501,465	(39,649)	186,211
47	2056	2,898,053	1,303,492	946,534	501,465	(38,833)	185,395
48	2057	2,898,053	1,303,492	946,534	501,465	(37,985)	184,547
49	2058	2,898,053	1,303,492	946,534	501,465	(37,107)	183,669
50	2059	2,898,053	1,303,492	946,534	501,465	(36,196)	182,758
51	2060	2,898,053	1,303,492	946,534	501,465	(35,255)	181,817
52	2061	2,898,053	1,303,492	946,534	501,465	(34,277)	180,839
53	2062	2,898,053	1,303,492	946,534	501,465	(33,264)	179,826
54	2063	2,898,053	1,303,492	946,534	501,465	(32,214)	178,776
55	2064	2,898,053	1,303,492	946,534	501,465	(31,126)	177,688
56	2065	2,898,053	1,303,492	946,534	501,465	(29,998)	176,560
57	2066	2,898,053	1,303,492	946,534	501,465	(28,830)	175,392
58	2067	2,898,053	1,303,492	946,534	501,465	(27,619)	174,181
59	2068	2,898,053	1,303,492	946,534	501,465	(26,364)	172,926
60	2069	2,898,053	1,303,492	946,534	501,465	(25,064)	171,626
61	2070	2,898,053	1,303,492	946,534	501,465	(23,716)	170,278
62	2071	2,898,053	1,303,492	946,534	501,465	(22,320)	168,882
63	2072	2,898,053	1,303,492	946,534	501,465	(20,873)	167,435
64	2073	2,898,053	1,303,492	946,534	501,465	(19,371)	165,933
65	2074	2,898,053	1,303,492	946,534	501,465	(17,817)	164,379
66	2075	2,898,053	1,303,492	946,534	501,465	(16,206)	162,768
67	GENERATION						
68	TOTALS	347,865,645	115,929,517	161,274,316	40,600,216	17,417,000	12,644,596

1/ Consists of depreciation plus other non-cash expenses and other adjustments and any accounting write-offs included in expenses. Also removed revenue financing. FY 2019 includes a one-time increase of $182 million to rebalance financial reserves between the transmission and generation functions to correct for a misallocation error in the calculation of financial reserves attributed to the business units.

2/ Prior to 2020, non-Federal debt was considered part of purchase and exchange power. Starting in 2020, BPA is implementing new guidance on lease accounting. Non-Federal principal and interest will be treated like Federal debt.

Table 7 (continued)

		G	H	I	J	K	L
	YEAR COMBINED CUMULATIVE	NONCASH EXPENSES 1/ (COLUMN D)	FUNDS FROM OPERATION (H=F+G)	NON-FEDERAL AMORTIZATION 2/ (REV REQ STUDY DOCUMENTATION)	AMORTIZATION (REV REQ STUDY DOCUMENTATION)	IRRIGATION AMORTIZATION (STATEMENT C)	NET POSITION (K=H-I-J)
1	2017	5,323,562	8,222,501	-	7,774,328	329,963	118,211
2	GENERATION						
3	2018	221,031	295,853	-	388,138	13,210	(105,495)
4	2019	222,645	810,434	141,088	422,706	56,573	190,067
5	2020	447,520	702,633	274,610	171,410	24,129	232,484
6	2021	262,017	659,696	104,905	519,000	22,112	13,679
7	2022	541,014	1,399,807	108,065	479,300	17,064	795,378
8	COST EVALUATION						
9	PERIOD						
10	2023	454,431	558,918	21,111	525,000	12,762	45
11	RATE APPROVAL						
12	PERIOD						
13	2024	340,075	493,770	27,167	459,999	8,067	(1,464)
14	2025	325,772	296,486	21,093	446,000	14,006	(184,613)
15	REPAYMENT						
16	PERIOD						
17	2026	360,061	297,261	96,150	379,530	20,317	(198,736)
18	2027	360,061	313,803	405,711	102,236	6,265	(200,409)
19	2028	360,061	332,476	416,483	101,392	11,447	(196,845)
20	2029	360,061	349,875	136,556	405,104	4,065	(195,850)
21	2030	360,061	368,172	283,505	266,305	1,996	(183,633)
22	2031	360,061	371,248	314,353	243,291	10,916	(197,312)
23	2032	360,061	396,169	347,331	225,387	0	(176,549)
24	2033	360,061	395,202	335,061	242,792	4,347	(186,998)
25	2034	360,061	404,133	322,194	308,420	0	(226,481)
26	2035	360,061	490,442	323,226	295,454	8,051	(136,289)
27	2036	360,061	473,929	341,464	238,681	28,920	(135,136)
28	2037	360,061	428,518	310,491	297,262	15,883	(195,117)
29	2038	360,061	443,241	226,373	413,535	0	(196,666)
30	2039	360,061	459,844	210,053	430,205	13,975	(194,388)
31	2040	360,061	474,263	209,470	459,142	0	(194,348)
32	2041	360,061	488,682	216,735	392,044	73,659	(193,756)
33	2042	360,061	502,522	211,138	485,647	0	(194,263)
34	2043	360,061	516,923	115,076	598,972	0	(197,126)
35	2044	360,061	534,551	226,471	500,786	0	(192,706)
36	2045	360,061	547,411	489,036	232,332	12,011	(185,968)
37	2046	360,061	552,666	489,035	243,541	0	(179,911)
38	2047	360,061	551,861	489,037	242,926	0	(180,102)
39	2048	360,061	551,246	489,035	242,292	0	(180,082)
40	2049	360,061	550,610	489,036	241,633	0	(180,059)
41	2050	360,061	549,949	489,036	240,951	0	(180,037)
42	2051	360,061	549,267	489,035	240,244	0	(180,012)
43	2052	360,061	548,557	489,035	239,510	0	(179,988)
44	2053	360,061	547,822	489,035	238,750	0	(179,964)
45	2054	360,061	547,062	489,036	237,962	0	(179,936)
46	2055	360,061	546,273	489,036	237,146	0	(179,909)
47	2056	360,061	545,456	489,034	236,303	0	(179,880)
48	2057	360,061	544,609	489,034	235,426	0	(179,851)
49	2058	360,061	543,730	489,035	234,517	0	(179,821)
50	2059	360,061	542,820	489,038	233,572	0	(179,790)
51	2060	360,061	541,878	489,037	232,597	0	(179,756)
52	2061	360,061	540,900	489,037	231,586	0	(179,722)
53	2062	360,061	539,887	489,035	230,540	0	(179,688)
54	2063	360,061	538,837	489,035	229,453	0	(179,652)
55	2064	360,061	537,749	489,037	228,326	0	(179,614)
56	2065	360,061	536,622	489,034	227,162	0	(179,575)
57	2066	360,061	535,453	489,035	225,953	0	(179,535)
58	2067	360,061	534,242	489,037	224,698	0	(179,493)
59	2068	360,061	532,987	489,034	223,403	0	(179,449)
60	2069	360,061	531,687	489,035	222,057	0	(179,404)
61	2070	360,061	530,340	489,034	220,662	0	(179,357)
62	2071	360,061	528,943	489,035	219,217	0	(179,308)
63	2072	360,061	527,496	489,037	217,717	0	(179,258)
64	2073	360,061	525,994	489,036	216,166	0	(179,207)
65	2074	360,061	524,440	489,036	214,557	0	(179,153)
66	2075	360,061	522,829	489,037	212,889	0	(179,096)
67	GENERATION						
68	TOTALS	30,722,471	44,289,612	20,905,985	30,247,956	867,681	(7,732,009)

1/ Consists of depreciation plus other non-cash expenses and other adjustments and any accounting write-offs included in expenses. Also removed revenue financing. FY 2019 includes a one-time increase of $182 million to rebalance financial reserves between the transmission and generation functions to correct for a misallocation error in the calculation of financial reserves attributed to the business units.

2/ Prior to 2020, non-Federal debt was considered part of purchase and exchange power. Starting in 2020, BPA is implementing new guidance on lease accounting. Non-Federal principal and interest will be treated like Federal debt.

Table 8: Generation Revised Revenue Test Income Statement

($000s)

		A 2024	B 2025
1	REVENUES FROM PROPOSED RATES	3,121,402	3,167,817
2			
3	OPERATING EXPENSES		
4	POWER SYSTEM GENERATION RESOURCES		
5	OPERATING GENERATION	741,372	806,672
6	OPERATING GENERATION SETTLEMENTS	27,749	27,500
7	NON-OPERATING GENERATION	2,341	2,375
8	CONTRACTED POWER PURCHASES	195,571	274,316
9	AUGMENTATION POWER PURCHASES	0	0
10	EXCHANGES & SETTLEMENTS	274,777	274,820
11	RENEWABLE GENERATION	25,967	26,767
12	GENERATION CONSERVATION	113,681	113,744
13	POWER NON-GENERATION OPERATIONS	82,523	83,801
14	PS TRANSMISSION ACQUISITION AND ANCILLARY SERVICES	209,421	210,126
15	F&W/USF&W/PLANNING COUNCIL	313,942	313,572
16	BPA INTERNAL SUPPORT	112,893	116,333
17	OTHER INCOME, EXPENSES AND ADJUSTMENTS	0	0
18	DEPRECIATION	139,703	143,600
19	AMORTIZATION	312,487	316,066
20	ACCRETION	40,043	41,798
21	TOTAL OPERATING EXPENSES	2,592,471	2,751,491
22			
23	OTHER EXPENSE AND (INCOME)		
24	INTEREST		
25	APPROPRIATED FUNDS	34,236	23,203
26	CAPITALIZATION ADJUSTMENT	(45,937)	(45,937)
27	BONDS ISSUED TO U.S. TREASURY	39,728	43,660
28	PREMIUMS/DISCOUNTS	11,090	605
29	NON-FEDERAL INTEREST	234,544	230,535
30	AMORTIZATION OF NON-FEDERAL PREMIUMS/DISCOUNTS	(34,767)	(38,006)
31	AMORTIZATION OF COST OF ISSUANCE	500	500
32	ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION	(17,821)	(18,137)
33	INTEREST CREDIT ON CASH RESERVES	(3,276)	(5,454)
34	INTEREST INCOME ON DECOMMISSIONING TRUST	(11,469)	(12,191)
35	OTHER INCOME (NET)	(4,335)	(4,608)
36	TOTAL OTHER EXPENSE AND (INCOME)	202,492	174,170
37			
38	TOTAL EXPENSES	2,794,963	2,925,661
39			
40	NET REVENUES	326,439	242,156

Table 9: Generation Revised Revenue Test Statement of Cash Flow

($000s)

		A 2024	B 2025
1	CASH PROVIDED BY OPERATING ACTIVITIES		
2	NET REVENUES	326,439	242,156
3	NON-CASH ITEMS:		
4	NON-FEDERAL INTEREST	5,694	4,539
5	DEPRECIATION AND AMORTIZATION	452,190	459,666
6	ACCRETION	40,043	41,798
7	NON-CASH EXPENSES	(15,804)	(16,799)
8	CAPITALIZATION ADJUSTMENT	(45,937)	(45,937)
9	NON-CASH REVENUES	(30,600)	(30,600)
10	AMORTIZATION OF NON-FEDERAL PREMIUMS/DISCOUNTS	(34,767)	(38,006)
11	AMORTIZATION OF COST OF ISSUANCE	500	500
12	CASH CONTRIBUTION TO DECOMMISSIONING TRUST	(15,100)	(15,100)
13	CASH FREE UP	17,600	0
14	CASH FLOW ADJUSTMENT (RESERVE)/APPLICATION	0	0
15	CASH PROVIDED BY OPERATING ACTIVITIES	700,258	602,218
16			
17	CASH USED FOR INVESTMENT ACTIVITIES		
18	INVESTMENT IN:		
19	FEDERAL UTILITY PLANT (INCLUDING AFUDC)	(274,444)	(280,651)
20	FISH & WILDLIFE	(41,000)	(41,000)
21	CASH USED FOR INVESTMENT ACTIVITIES	(315,444)	(321,651)
22			
23	CASH FROM (AND USED FOR) FINANCING ACTIVITIES		
24	INCREASE IN TREASURY DEBT	268,257	274,710
25	REPAYMENT OF TREASURY DEBT	(181,200)	(236,863)
26	INCREASE IN FEDERAL CONSTRUCTION APPROPRIATIONS	13,444	12,651
27	REPAYMENT OF FEDERAL CONSTRUCTION APPROPRIATIONS	(278,799)	(209,137)
28	REPAYMENT OF NON-FEDERAL OBLIGATIONS	(27,167)	(21,093)
29	CUSTOMER PROCEEDS	0	0
30	PAYMENT OF IRRIGATION ASSISTANCE	(8,067)	(14,006)
31	CASH USED FOR FINANCING ACTIVITIES	(213,532)	(193,738)
32			
33	ANNUAL INCREASE (DECREASE) IN CASH	171,282	86,829

Table 10: Generation Revenue from Proposed Rates – Results Through the Repayment Period

($000s)

		A	B	C	D	E	F
	YEAR COMBINED CUMULATIVE	REVENUES (STATEMENT A)	OPERATION & MAINTENANCE (STATEMENT E)	PURCHASE AND EXCHANGE POWER (STATEMENT E)	DEPRECIATION AMORTIZATION ACCRETION	NET INTEREST (STATEMENT D)	NET REVENUES (F=A-B-C-D-E)
1	**2017**	93,566,686	22,293,538	54,914,506	6,394,201	8,030,073	1,934,369
2	**GENERATION**						
3	**2018**	2,862,774	1,117,823	683,251	221,031	73,686	766,983
4	**2019**	2,817,848	1,129,514	1,139,850	225,211	65,484	257,789
5	**2020**	2,814,257	1,117,823	683,251	478,985	279,085	255,113
6	**2021**	2,933,198	1,132,498	854,827	488,363	59,831	397,679
7	**2022**	3,701,138	1,175,087	946,729	502,247	218,283	858,793
8	**COST EVALUATION**						
9	**PERIOD**						
10	**2023**	2,756,984	1,224,491	707,257	499,837	227,912	97,487
11	**RATE APPROVAL**						
12	**PERIOD**						
13	**2024**	3,121,402	1,289,069	811,169	492,233	202,492	326,439
14	**2025**	3,167,817	1,303,492	946,534	501,465	174,170	242,157
15	**REPAYMENT**						
16	**PERIOD**						
17	**2026**	3,167,817	1,303,492	919,206	501,465	209,362	234,292
18	**2027**	3,167,817	1,303,492	919,206	501,465	192,820	250,834
19	**2028**	3,167,817	1,303,492	919,206	501,465	174,147	269,507
20	**2029**	3,167,817	1,303,492	919,206	501,465	156,749	286,906
21	**2030**	3,167,817	1,303,492	919,206	501,465	138,451	305,203
22	**2031**	3,167,817	1,303,492	919,206	501,465	135,376	308,279
23	**2032**	3,167,817	1,303,492	919,206	501,465	110,455	333,200
24	**2033**	3,167,817	1,303,492	919,206	501,465	111,422	332,233
25	**2034**	3,167,817	1,303,492	919,206	501,465	102,490	341,164
26	**2035**	3,167,817	1,303,492	919,206	501,465	16,182	427,473
27	**2036**	3,167,817	1,303,492	919,206	501,465	32,694	410,961
28	**2037**	3,167,817	1,303,492	919,206	501,465	78,106	365,549
29	**2038**	3,167,817	1,303,492	919,206	501,465	63,382	380,273
30	**2039**	3,167,817	1,303,492	919,206	501,465	46,779	396,875
31	**2040**	3,167,817	1,303,492	919,206	501,465	32,360	411,294
32	**2041**	3,167,817	1,303,492	919,206	501,465	17,942	425,713
33	**2042**	3,167,817	1,303,492	919,206	501,465	4,102	439,553
34	**2043**	3,167,817	1,303,492	919,206	501,465	(10,300)	453,954
35	**2044**	3,167,817	1,303,492	919,206	501,465	(27,928)	471,582
36	**2045**	3,167,817	1,303,492	919,206	501,465	(40,787)	484,442
37	**2046**	3,167,817	1,303,492	919,206	501,465	(46,042)	489,697
38	**2047**	3,167,817	1,303,492	919,206	501,465	(45,238)	488,892
39	**2048**	3,167,817	1,303,492	919,206	501,465	(44,622)	488,277
40	**2049**	3,167,817	1,303,492	919,206	501,465	(43,987)	487,641
41	**2050**	3,167,817	1,303,492	919,206	501,465	(43,326)	486,981
42	**2051**	3,167,817	1,303,492	919,206	501,465	(42,643)	486,298
43	**2052**	3,167,817	1,303,492	919,206	501,465	(41,934)	485,588
44	**2053**	3,167,817	1,303,492	919,206	501,465	(41,199)	484,853
45	**2054**	3,167,817	1,303,492	919,206	501,465	(40,439)	484,093
46	**2055**	3,167,817	1,303,492	919,206	501,465	(39,649)	483,304
47	**2056**	3,167,817	1,303,492	919,206	501,465	(38,833)	482,488
48	**2057**	3,167,817	1,303,492	919,206	501,465	(37,985)	481,640
49	**2058**	3,167,817	1,303,492	919,206	501,465	(37,107)	480,761
50	**2059**	3,167,817	1,303,492	919,206	501,465	(36,196)	479,851
51	**2060**	3,167,817	1,303,492	919,206	501,465	(35,255)	478,909
52	**2061**	3,167,817	1,303,492	919,206	501,465	(34,277)	477,932
53	**2062**	3,167,817	1,303,492	919,206	501,465	(33,264)	476,918
54	**2063**	3,167,817	1,303,492	919,206	501,465	(32,214)	475,868
55	**2064**	3,167,817	1,303,492	919,206	501,465	(31,126)	474,780
56	**2065**	3,167,817	1,303,492	919,206	501,465	(29,998)	473,653
57	**2066**	3,167,817	1,303,492	919,206	501,465	(28,830)	472,484
58	**2067**	3,167,817	1,303,492	919,206	501,465	(27,619)	471,274
59	**2068**	3,167,817	1,303,492	919,206	501,465	(26,364)	470,019
60	**2069**	3,167,817	1,303,492	919,206	501,465	(25,064)	468,718
61	**2070**	3,167,817	1,303,492	919,206	501,465	(23,716)	467,371
62	**2071**	3,167,817	1,303,492	919,206	501,465	(22,320)	465,974
63	**2072**	3,167,817	1,303,492	919,206	501,465	(20,873)	464,527
64	**2073**	3,167,817	1,303,492	919,206	501,465	(19,371)	463,025
65	**2074**	3,167,817	1,303,492	919,206	501,465	(17,817)	461,471
66	**2075**	3,167,817	1,303,492	919,206	501,465	(16,206)	459,860
67	**GENERATION**						
68	**TOTALS**	309,629,955	107,879,481	124,474,831	36,840,039	12,435,670	27,999,934

1/ Consists of depreciation (column D) plus other non-cash expenses and other adjustments and any accounting write-offs included in expenses. FY 2019 includes a one-time increase of $182 million to rebalance financial reserves between the transmission and generation functions to correct for a misallocation error in the calculation of financial reserves attributed to the business units.

2/ Prior to 2020, non-Federal debt was considered part of purchase and exchange power. Starting in 2020, BPA is implementing new guidance on lease accounting. Non-Federal principal and interest will be treated like Federal debt.

Table 10 (continued)

		G	H	I	J	K	L
	YEAR COMBINED CUMULATIVE	NONCASH EXPENSES 1/ (COLUMN D)	FUNDS FROM OPERATION (H=F+G)	NON-FEDERAL AMORTIZATION 2/ (REV REQ STUDY DOCUMENTATION)	FEDERAL AMORTIZATION (REV REQ STUDY DOCUMENTATION)	IRRIGATION AMORTIZATION (STATEMENT C)	NET POSITION (K=H-I-J)
1	**2017**	5,323,562	8,222,501		7,774,328	329,963	118,211
2	**GENERATION**						
3	**2018**	221,031	295,853	0	388,138	13,210	(105,495)
4	**2019**	222,645	810,434	141,088	422,706	56,573	190,067
5	**2020**	447,520	702,633	274,610	171,410	24,129	232,484
6	**2021**	262,017	659,696	104,905	519,000	22,112	13,679
7	**2022**	541,014	1,399,807	108,065	479,300	17,064	795,378
8	**COST EVALUATION**						
9	**PERIOD**						
10	**2023**	454,431	558,918	21,111	525,000	12,762	45
11	**RATE APPROVAL**						
12	**PERIOD**						
13	**2024**	340,075	666,515	27,167	459,999	8,067	171,281.53
14	**2025**	325,772	567,928	21,093	446,000	14,006	86,829
15	**REPAYMENT**						
16	**PERIOD**						
17	**2026**	360,061	594,354	96,150	379,530	20,317	98,357
18	**2027**	360,061	610,896	405,711	102,236	6,265	96,683
19	**2028**	360,061	629,569	416,483	101,392	11,447	100,247
20	**2029**	360,061	646,967	136,556	405,104	4,065	101,243
21	**2030**	360,061	665,265	283,505	266,305	1,996	113,459
22	**2031**	360,061	668,340	314,353	243,291	10,916	99,780
23	**2032**	360,061	693,261	347,331	225,387	-	120,544
24	**2033**	360,061	692,294	335,061	242,792	4,347	110,095
25	**2034**	360,061	701,226	322,194	308,420	-	70,612
26	**2035**	360,061	787,534	323,226	295,454	8,051	160,804
27	**2036**	360,061	771,022	341,464	238,681	28,920	161,956
28	**2037**	360,061	725,610	310,491	297,262	15,883	101,975
29	**2038**	360,061	740,334	226,373	413,535	-	100,426
30	**2039**	360,061	756,937	210,053	430,205	13,975	102,704
31	**2040**	360,061	771,355	209,470	459,142	-	102,744
32	**2041**	360,061	785,774	216,735	392,044	73,659	103,337
33	**2042**	360,061	799,614	211,138	485,647	-	102,830
34	**2043**	360,061	814,016	115,076	598,972	-	99,967
35	**2044**	360,061	831,643	226,471	500,786	-	104,387
36	**2045**	360,061	844,503	489,036	232,332	12,011	111,124
37	**2046**	360,061	849,758	489,035	243,541	-	117,182
38	**2047**	360,061	848,954	489,037	242,926	-	116,990
39	**2048**	360,061	848,338	489,035	242,292	-	117,011
40	**2049**	360,061	847,703	489,036	241,633	-	117,034
41	**2050**	360,061	847,042	489,036	240,951	-	117,056
42	**2051**	360,061	846,359	489,035	240,244	-	117,080
43	**2052**	360,061	845,650	489,035	239,510	-	117,104
44	**2053**	360,061	844,914	489,035	238,750	-	117,129
45	**2054**	360,061	844,155	489,036	237,962	-	117,156
46	**2055**	360,061	843,365	489,036	237,146	-	117,183
47	**2056**	360,061	842,549	489,034	236,303	-	117,213
48	**2057**	360,061	841,701	489,034	235,426	-	117,241
49	**2058**	360,061	840,823	489,035	234,517	-	117,271
50	**2059**	360,061	839,912	489,038	233,572	-	117,302
51	**2060**	360,061	838,971	489,037	232,597	-	117,337
52	**2061**	360,061	837,993	489,037	231,586	-	117,370
53	**2062**	360,061	836,980	489,035	230,540	-	117,405
54	**2063**	360,061	835,930	489,035	229,453	-	117,441
55	**2064**	360,061	834,842	489,037	228,326	-	117,478
56	**2065**	360,061	833,714	489,034	227,162	-	117,517
57	**2066**	360,061	832,546	489,035	225,953	-	117,558
58	**2067**	360,061	831,335	489,037	224,698	-	117,600
59	**2068**	360,061	830,080	489,034	223,403	-	117,643
60	**2069**	360,061	828,780	489,035	222,057	-	117,688
61	**2070**	360,061	827,432	489,034	220,662	-	117,735
62	**2071**	360,061	826,036	489,035	219,217	-	117,784
63	**2072**	360,061	824,588	489,037	217,717	-	117,835
64	**2073**	360,061	823,087	489,036	216,166	-	117,885
65	**2074**	360,061	821,532	489,036	214,557	-	117,940
66	**2075**	360,061	819,922	489,037	212,889	-	117,996
67	**GENERATION**						
68	**TOTALS**	28,028,365	58,553,162		29,745,600	997,996	6,903,581

1/ Consists of depreciation (column D) plus other non-cash expenses and other adjustments and any accounting write-offs included in expenses. FY 2019 includes a one-time increase of $182 million to rebalance financial reserves between the transmission and generation functions to correct for a misallocation error in the calculation of financial reserves attributed to the business units.

2/ Prior to 2020, non-Federal debt was considered part of purchase and exchange power. Starting in 2020, BPA is implementing new guidance on lease accounting. Non-Federal principal and interest will be treated like Federal debt.

Table 11: Amortization of Generation Investments Over Repayment Period ($000s)

	A	B	C	D	E	F	G	H	I	J	K
		Investments Placed in Service							Irrigation Assistance		
	Fiscal Year	Original & New Obligations	Replacements	Cumulative Amount In Service	Due Amortization	Discretionary Amortization	Unamortized Investment	Term Investment Schedule	Cumulative Amount In Service	Amortization	Unamortized Amount
1	2023	15,074,002	-	15,074,002	102,000	423,000	2,786,189	8,467,207	247,135	13,210	233,925
2	2024	315,444	-	15,389,446	71,200	388,800	2,641,633	8,634,183	-	8,067	225,857
3	2025	371,652	-	15,761,098	87,000	359,000	2,567,285	8,670,345	-	14,006	211,851
4	2026	-	260,409	16,021,507	1,000	378,530	2,448,164	8,575,567	-	20,317	191,534
5	2027	-	260,409	16,281,917	28,817	73,419	2,606,337	8,639,261	-	6,265	185,270
6	2028	-	260,409	16,542,326	62,000	39,392	2,765,355	8,562,470	-	11,447	173,823
7	2029	-	260,409	16,802,735	91,000	314,104	2,620,660	8,440,459	-	4,065	169,758
8	2030	-	260,409	17,063,145	68,000	198,305	2,614,765	8,621,754	-	1,996	167,762
9	2031	-	260,409	17,323,554	78,000	165,291	2,631,884	8,756,811	-	10,916	156,846
10	2032	-	260,409	17,583,964	26,000	199,387	2,666,907	8,758,708	-	-	156,846
11	2033	-	260,409	17,844,373	57,892	184,900	2,684,525	8,630,283	-	4,347	152,499
12	2034	-	260,409	18,104,782	16,500	291,920	2,636,514	8,795,692	-	-	152,499
13	2035	-	260,409	18,365,192	-	295,454	2,601,470	8,987,888	-	8,051	144,448
14	2036	-	260,409	18,625,601	-	238,681	2,623,198	9,218,033	-	28,920	115,528
15	2037	-	260,409	18,886,011	-	297,262	2,586,346	9,308,906	-	15,883	99,645
16	2038		260,409	19,146,420	-	413,535	2,433,220	9,364,882	-	-	99,645
17	2039	-	260,409	19,406,829	-	430,205	2,263,425	9,454,292	-	13,975	85,670
18	2040	-	260,409	19,667,239	-	459,142	2,064,692	9,620,944	-	-	85,670
19	2041	-	260,409	19,927,648	-	392,044	1,933,058	9,746,602	-	73,659	12,011
20	2042	-	260,409	20,188,058	-	485,647	1,707,820	9,900,138	-	-	12,011
21	2043	-	260,409	20,448,467	-	598,972	1,369,258	9,822,069	-	-	12,011
22	2044	-	260,409	20,708,876	-	500,786	1,128,881	9,950,941	-	-	12,011
23	2045	-	260,409	20,969,286	-	232,332	1,156,958	10,089,405	-	12,011	-
24	2046	-	260,409	21,229,695	-	243,541	1,173,826	10,247,966	-	-	-
25	2047	-	260,409	21,490,105	-	242,926	1,191,310	10,319,065	-	-	-
26	2048	-	260,409	21,750,514	-	242,292	1,209,427	10,152,074	-	-	-
27	2049	-	260,409	22,010,923	-	241,633	1,228,203	10,191,483	-	-	-
28	2050	-	260,409	22,271,333	-	240,951	1,247,662	10,297,286	-	-	-
29	2051	-	260,409	22,531,742	-	240,244	1,267,827	10,413,786	-	-	-
30	2052	-	260,409	22,792,152	-	239,510	1,288,726	10,553,422	-	-	-
31	2053	-	260,409	23,052,561	-	238,750	1,310,385	10,550,745	-	-	-
32	2054	-	260,409	23,312,970	-	237,962	1,332,833	10,452,353	-	-	-
33	2055	-	260,409	23,573,380	-	237,146	1,356,096	10,402,439	-	-	-
34	2056	-	260,409	23,833,789	-	236,303	1,380,203	10,284,267	-	-	-
35	2057	-	260,409	24,094,199	-	235,426	1,405,186	10,487,665	-	-	-
36	2058	-	260,409	24,354,608	-	234,517	1,431,079	10,688,859	-	-	-
37	2059	-	260,409	24,615,017	-	233,572	1,457,917	10,797,817	-	-	-
38	2060	-	260,409	24,875,427	-	232,597	1,485,730	10,996,419	-	-	-
39	2061	-	260,409	25,135,836	-	231,586	1,514,554	11,135,864	-	-	-
40	2062	-	260,409	25,396,246	-	230,540	1,544,424	11,287,614	-	-	-
41	2063	-	260,409	25,656,655	-	229,453	1,575,380	11,443,693	-	-	-
42	2064	-	260,409	25,917,064	-	228,326	1,607,463	11,588,512	-	-	-
43	2065	-	260,409	26,177,474	-	227,162	1,640,710	11,759,986	-	-	-
44	2066	-	260,409	26,437,883	-	225,953	1,675,166	11,986,052	-	-	-
45	2067	-	260,409	26,698,293	-	224,698	1,710,877	12,184,559	-	-	-
46	2068	-	260,409	26,958,702	-	223,403	1,747,884	12,391,697	-	-	-
47	2069	-	260,409	27,219,111	-	222,057	1,786,237	12,595,420	-	-	-
48	2070	-	260,409	27,479,521	-	220,662	1,825,984	12,748,246	-	-	-
49	2071	-	260,409	27,739,930	-	219,217	1,867,177	12,666,702	-	-	-
50	2072	-	260,409	28,000,340	-	217,717	1,909,870	12,652,189		-	-
51	2073	-	260,409	28,260,749	-	216,166	1,954,113	12,631,821	-	-	-
52	2074	-	260,409	28,521,158	-	214,557	1,999,966	12,618,377	-	-	-
53	2075	-	260,409	28,781,568	-	212,889	2,047,487	12,605,726	-	-	-
54	**Totals**	**$15,761,098**	**$13,020,470**		**$689,409**	**$14,281,859**			**$247,135**	**$247,135**	

BONNEVILLE POWER ADMINISTRATION
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