

**2002  
Record of Decision**

**TABLE OF CONTENTS**

		<b>Page</b>
<b>Commonly Used Acronyms .....</b>		<b>vi</b>
<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>1-1</b>
1.1	Procedural History of this Rate Proceeding .....	1-1
1.1.1	Issue Workshops .....	1-1
1.1.2	Rate Proceeding .....	1-1
1.1.3	Waiver of Issues By Failure to Raise in Briefs .....	1-3
1.2	Legal Guidelines Governing Establishment of Rates .....	1-3
1.2.1	Statutory Guidelines .....	1-3
1.2.2	Additional Statutory Guidelines for Inter-Business Line Charges .....	1-4
1.2.3	The Broad Ratemaking Discretion Vested in the Administrator .....	1-4
1.3	Federal Energy Regulatory Commission (FERC) Confirmation and Approval of Rates .....	1-4
1.3.1	Firm Power Rates .....	1-5
1.3.2	Nonfirm Energy (NF) Rates .....	1-5
1.3.3	Inter-Business Line Charges .....	1-6
1.4	Standard of Judicial Review .....	1-6
<b>2.0</b>	<b>OVERALL POLICY CONTEXT .....</b>	<b>2-1</b>
2.1	Subscription .....	2-1
2.1.1	The Public Process .....	2-1
2.1.2	Subscription Service to Publics and Investor-Owned Utilities (IOUs) .....	2-3
2.1.3	Subscription Service to the Direct Service Industrial Customers (DSIs) .....	2-6
2.2	Maintaining Stable Rates .....	2-7
2.3	The Fish and Wildlife Funding Principles .....	2-7
2.4	Bifurcation of Rate Cases Between Power Business Line and Transmission Business Line/FERC .....	2-9
<b>3.0</b>	<b>LOADS AND RESOURCES .....</b>	<b>3-1</b>
3.1	Introduction .....	3-1
3.2	Federal System Load Forecast .....	3-1
3.3	Federal System Resource Forecast .....	3-1
3.4	Federal System Load and Resource Balances .....	3-3
<b>4.0</b>	<b>MARGINAL COST ANALYSIS .....</b>	<b>4-1</b>
4.1	Introduction .....	4-1
4.2	The Methodology for Forecasting Resource Additions .....	4-1
<b>5.0</b>	<b>REVENUE REQUIREMENTS .....</b>	<b>5-1</b>
5.1	Introduction .....	5-1
5.2	Revenue Requirement Development .....	5-1
5.3	Spending Level Development .....	5-2

5.3.1	Cost Review .....	5-2
5.3.2	Fish and Wildlife and Cultural Resources Expenses .....	5-7
5.4	Implementation of Fish and Wildlife Funding Principles .....	5-20
5.4.1	Equal Weighting of the 13 Alternatives .....	5-20
5.4.2	Range of Fish and Wildlife Costs .....	5-23
5.4.3	Fish and Wildlife Costs and Probabilities .....	5-25
5.4.4	Use of Other Fish and Wildlife Alternatives in Risk Analysis .....	5-30
5.4.5	Fish and Wildlife Obligations .....	5-33
5.4.6	Principles Nos. 1, 3, and 5 .....	5-34
5.4.7	Principle No. 4 .....	5-39
	5.4.7.1 Change Risk Mitigation Package to Achieve 90 Percent Probability of \$500 Million Ending Reserves .....	5-40
	5.4.7.2 Ten (10)-Year Treasury Payment Probability “Policy” .....	5-41
5.5	Functionalization of BPA’s Fiber Optic Communication Equipment .....	5-60
5.6	Functionalization of the Costs of Energy Conservation and Renewable Resources .....	5-66
5.7	Segmentation and Cost Assignment of U.S. Army Corps of Engineers (COE) and Bureau of Reclamation (Reclamation) Transmission Facilities .....	5-69
<b>6.0</b>	<b>RISK ANALYSIS .....</b>	<b>6-1</b>
6.1	Introduction .....	6-1
6.2	RiskMod Model .....	6-1
6.3	Heavy Load Hour (HLH) and Light Load Hour (LLH) Surplus Energy Sales .....	6-2
6.4	Non-Operating Risk Model (NORM) .....	6-17
6.5	Fish and Wildlife Obligations .....	6-26
6.6	Risk and Environmental Obligations .....	6-28
6.7	Legal and Procedural Issues .....	6-30
<b>7.0</b>	<b>RISK MITIGATION .....</b>	<b>7-1</b>
7.1	Introduction .....	7-1
7.2	Probability of Repaying Treasury .....	7-3
7.3	Cost Recovery Adjustment Clause (CRAC) Design .....	7-19
7.4	Planned Net Revenues for Risk .....	7-35
7.5	Dividend Distribution Clause .....	7-48
7.6	Ending Reserve Level .....	7-56
7.7	Reasonableness of BPA’s Risk Mitigation Strategy Taken as a Whole .....	7-65
<b>8.0</b>	<b>TRANSMISSION AND INTER-BUSINESS LINE ISSUES .....</b>	<b>8-1</b>
8.1	Introduction .....	8-1
8.2	Transmission Expense Forecast .....	8-2
8.3	General Transfer Agreement (GTA) Expense Issues .....	8-8
8.4	Delivery Segment Costs .....	8-15
8.5	Generation Inputs for Ancillary Services .....	8-16
<b>9.0</b>	<b>TRANSMISSION FOR NON-FEDERAL POWER .....</b>	<b>9-1</b>
9.1	Introduction .....	9-1
9.2	Payment of Non-Federal Transmission Cost for GTA Customers’ Non-Federal Power Purchases .....	9-1

<b>10.0</b>	<b>WHOLESALE POWER RATE DESIGN .....</b>	<b>10-1</b>
10.1	Introduction .....	10-1
10.2	Monthly and Diurnal Differentiation of Energy Charges .....	10-2
10.3	Rate Caps for Demand and Load Variance Charges .....	10-3
10.4	Demand Charges .....	10-6
10.5	Load Variance Charge .....	10-11
10.6	Unauthorized Increase Charges .....	10-22
10.7	Excess Factoring Charges .....	10-36
10.8	Applicable Rate for Pre-Subscription Contracts that have Collared Price Provisions .....	10-50
10.9	Stepped-Up Multiyear Block Charge (SUMY) .....	10-50
10.10	Flexible Rate Options .....	10-57
	10.10.1 Flexible Priority Firm Power (PF) and New Resource Firm Power (NR) Rate Options .....	10-57
	10.10.2 Flexible Industrial Firm Power (IP) Rate Option .....	10-59
10.11	Five-Year Flat-Block Price Forecast .....	10-60
10.12	Low Density Discount (LDD) .....	10-72
10.13	Conservation and Renewables (C&R) Discount .....	10-92
	10.13.1 Conservation Augmentation .....	10-98
10.14	Green Energy Premium .....	10-101
10.15	Targeted Adjustment Charge (TAC) .....	10-101
10.16	Cost-Based Indexed Rate Options .....	10-111
	10.16.1 Cost-Based Indexed PF Rate .....	10-111
	10.16.2 Cost-Based Indexed IP Rate .....	10-113
<b>11.0</b>	<b>RESIDENTIAL EXCHANGE AVERAGE SYSTEM COSTS, LOAD FORECASTS AND POLICY .....</b>	<b>11-1</b>
11.1	Introduction .....	11-1
11.2	Forecast of Average System Cost and Loads for Exchanging Utilities .....	11-2
<b>12.0</b>	<b>COST OF SERVICE ANALYSIS AND RATE MODELING .....</b>	<b>12-1</b>
12.1	Residential Exchange Costing Model .....	12-1
12.2	Implementation of Rate Analysis Model (RAM) .....	12-2
12.3	Development of the Residential Load (RL) Rate and Federal Base System (FBS) Replacements .....	12-14
12.4	Allocation of 7(b)(2) Amount .....	12-33
<b>13.0</b>	<b>SECTION 7(b)(2) RATE TEST .....</b>	<b>13-1</b>
13.1	Introduction .....	13-1
13.2	Conservation .....	13-9
13.3	Costs of Uncontrollable Events .....	13-25
	13.3.1 Planned Net Revenues for Risk .....	13-25
	13.3.2 Terminated Generating Facilities .....	13-37
13.4	7(b)(2) Resources .....	13-46
	13.4.1 FBS Resources .....	13-46
	13.4.2 7(b)(2) Case Load/Resource Balance .....	13-47
13.5	Mid-Columbia (Mid-C) Resources .....	13-49
13.6	Demand Elasticity .....	13-50
13.7	BPA's Rate Development Process .....	13-56
<b>14.0</b>	<b>INVESTOR-OWNED UTILITY (IOU) BENEFITS AND SETTLEMENT .....</b>	<b>14-1</b>

14.1	Benefits to Regional IOUs .....	14-1
14.2	Residential Load Firm Power (RL) Rate .....	14-11
14.3	Proposed Subscription Settlements with Regional IOUs .....	14-16
<b>15.0</b>	<b>DIRECT SERVICE INDUSTRY POWER RATE DEVELOPMENT .....</b>	<b>15-1</b>
15.1	Introduction .....	15-1
15.2	7(c)(2) Industrial Margin .....	15-1
	15.2.1 Revenue Taxes .....	15-1
	15.2.2 Margin Sample .....	15-15
15.3	DSI Floor Rate .....	15-21
	15.3.1 Appropriate Rate Schedule: IP-83 Standard v. IP-83 Premium .....	15-21
	15.3.2 Non-Recurring Cost: Surplus Firm Revenue Deficiency .....	15-26
	15.3.3 Removal of Transmission Costs: IP-83 Standard v. IP-83 Premium ...	15-30
15.4	DSI Value of Reserves .....	15-35
15.5	Compromise Approach .....	15-37
	15.5.1 Introduction .....	15-37
	15.5.2 Constitutional Issues .....	15-41
	15.5.3 Obligation to Serve .....	15-55
	15.5.4 Rate Directives .....	15-61
	15.5.5 Allocation Methodology .....	15-72
<b>16.0</b>	<b>SLICE OF THE SYSTEM PRODUCT .....</b>	<b>16-1</b>
16.1	Introduction .....	16-1
16.2	Product Design .....	16-3
	16.2.1 Introduction .....	16-3
	16.2.2 Consistency of Slice with BPA’s Statutory Obligations .....	16-3
16.3	Transmission .....	16-14
16.4	Slice Revenue Requirement .....	16-18
	16.4.1 Minimum Net Revenue Requirement .....	16-18
	16.4.2 Power Marketing Costs .....	16-20
	16.4.3 Hedging Costs .....	16-21
	16.4.4 IOU Residential Exchange Settlement Costs .....	16-23
	16.4.5 Transmission Costs .....	16-24
	16.4.6 Inventory Solution True-Up .....	16-28
16.5	Cost Shifts .....	16-29
16.6	Impact of Slice on Risk Mitigation .....	16-34
16.7	Irrigation Mitigation .....	16-40
16.8	Slice Methodology .....	16-41
	16.8.1 Introduction .....	16-41
	16.8.2 Approval of Slice Methodology .....	16-41
<b>17.0</b>	<b>WHOLESALE POWER RATE SCHEDULES .....</b>	<b>17-1</b>
17.1	Introduction .....	17-1
17.2	Major Rate Design Proposals Affecting More Than One Rate Schedule .....	17-3
	17.2.1 Definition of Dow Jones Mid-Columbia Index .....	17-3
	17.2.2 Low Density Discount (LDD) .....	17-6

17.3	Transmission Resale .....	17-7
17.4	Cost-Based Indexed IP Rate Option .....	17-8
17.5	Nonfirm Energy Rate (NF-02) .....	17-9
17.6	Discounted Rates .....	17-10
17.7	Slice Product Costing and True-Up Adjustment Charge Tables .....	17-10
<b>18.0</b>	<b>PROCEDURAL MATTERS .....</b>	<b>18-1</b>
18.1	Evidentiary Issues .....	18-1
18.1.1	Scope of Cross-Examination .....	18-1
18.1.2	1996 Power Rate Settlement Agreement .....	18-4
18.1.3	Official Notice .....	18-7
18.1.4	Waiver of Attorney – Client Privilege .....	18-11
18.1.5	Validity of Evidence Pertaining to the Industrial Margin .....	18-14
18.1.6	Admissability of Newspaper Article .....	18-15
18.2	Procedural Due Process .....	18-22
18.2.1	Subscription Strategy Record of Decision .....	18-24
18.2.2	Fish and Wildlife Issues .....	18-23
18.2.3	Adequacy of Briefing Schedule .....	18-49
18.3	Environmental Analysis .....	18-50
18.3.1	Introduction .....	18-50
18.3.2	National Environmental Policy Act Analysis .....	18-52
18.4	Participant Comments .....	18-53
18.4.1	Introduction .....	18-53
18.4.2	Evaluation of Participant Comments .....	18-54
<b>19.0</b>	<b>TARGETED ADJUSTMENT CHARGE FOR UNCOMMITTED LOADS (TACUL) .....</b>	<b>19-1</b>
19.1	BPA’s Ratemaking Authority .....	19-1
19.2	Uncommitted Loads/Diversification Issues .....	19-10
19.3	Recall/Returning Diversification Loads .....	19-19
19.4	Equity .....	19-26
<b>20.0</b>	<b>CONCLUSION .....</b>	<b>20-1</b>

**ATTACHMENT**

Slice Methodology (for FERC approval for 10 years)

**APPENDICES**

Appendix 1: 2002 Wholesale Power Rate Schedules

Appendix 2: 1996 Wholesale Power Rate Schedule Adjustment

## COMMONLY USED ACRONYMS

AANR	Actual Accumulated Net Revenues
AC	Alternating Current
AER	Actual Energy Regulation
Affiliated Tribes	Affiliated Tribes of Northwest Indians
AFUDC	Allowance for Funds Used During Construction
AGC	Automatic Generation Control
Alcoa	Alcoa, Inc.
Alcoa/Vanalco	Joint Alcoa and Vanalco
aMW	Average Megawatt
ANRT	Accumulated Net Revenue Threshold
AOP	Assured Operating Plan
APS	Ancillary Products and Services (rate)
APS-S	Actual Partial Service-Simple
ASC	Average System Cost
Avista	Avista Corp
BASC	BPA Average System Cost
BO	Biological Opinion
BPA	Bonneville Power Administration
Btu	British Thermal Unit
C&R Discount	Conservation and Renewables Discount
C&R	Cost and Revenue
CalPX	California Power Exchange
CBFWA	Columbia Basin Fish & Wildlife Authority
CBP	Columbia Basin Project
CCCT	Combined-Cycle Combustion Turbine
CEC	California Energy Commission
CFAL	Columbia Falls Aluminum Company
Cfs	cubic feet per second
COB	California-Oregon Border
COE	U.S. Army Corps of Engineers
Con/Mod	Conservation Modernization Program
COSA	Cost of Service Analysis
CP	Coincidental Peak
CRAC	Cost Recovery Adjustment Clause
CRC	Critical Rule Curves
CRITFC	Columbia River Inter-Tribal Fish Commission
CSPE	Columbia Storage Power Exchange
CT	Combustion Turbine
CTPP	Conditional TPP
CWA	Clear Water Act
CY	Calendar Year (Jan-Dec)
DC	Direct Current
DDC	Dividend Distribution Clause

DMP	Data Management Procedures
DOE	Department of Energy
DROD	Draft Record of Decision
DSI	DSI (only the DSI represented by Murphy under DS)
DSIs	Direct Service Industrial Customers
ECC	Energy Content Curve
EIA	Energy Information Administration
EIS	Environmental Impact Statement
Energy Northwest	Formerly Washington Public Power Supply System (Nuclear) Project
Energy Services	Energy Services, Inc.
Enron	Enron Corporation
EPA	Environmental Protection Agency
EPP	Environmentally Preferred Power
ESA	Endangered Species Act
EWEB	Eugene Water & Electric Board
F&O	Financial and Operating Reports
FBS	Federal Base System
FCCF	Fish Cost Contingency Fund
FCRPS	Federal Columbia River Power System
FCRTS	Federal Columbia River Transmission System
FELCC	Firm Energy Load Carrying Capability
FERC	Federal Energy Regulatory Commission
Fourth Power Plan	NWPPC's Fourth Northwest Conservation and Electric Power Plan
FPA	Federal Power Act
FPS	Firm Power Products and Services (rate)
FSEA	Federal Secondary Energy Analysis
F&WCA	Fish and Wildlife Coordination Act
FY	Fiscal Year (Oct-Sep)
GEP	Green Energy Premium
GI	Generation Integration
GRI	Gas Research Institute
GRSPs	General Rate Schedule Provisions
GSP	Generation System Peak
GSU	Generator Step-Up Transformers
GTA	General Transfer Agreement
GWh	Gigawatthour
HELM	Hourly Electric Load Model
HLFG	High Load Factor Group
HLH	Heavy Load Hour
HNF	Hourly Non-Firm
HOSS	Hourly Operating and Scheduling Simulator
ICNU	Industrial Customers of Northwest Utilities
ICUA	Idaho Consumer-Owned Utilities Association, Inc.
Idaho Power	Idaho Power Company
IJC	International Joint Commission

IOU	IOU (the joint IOU filings)
IOUs	Investor-Owned Utilities
IP	Industrial Firm Power (rate)
IPTAC	Industrial Firm Power Targeted Adjustment Charge
ISC	Investment Service Coverage
ISO	Independent System Operator
Joint DSI	Alcoa, Vanalco, and DSI
KAF	Thousand Acre Feet
kcf	kilo (thousands) of cubic feet per second
ksfd	thousand second foot day
kV	Kilovolt (1000 volts)
kW	Kilowatt (1000 watts)
kWh	Kilowatthour
LCP	Least-Cost Plan
LDD	Low Density Discount
LLH	Light Load Hour
LME	London Metal Exchange
LOLP	Loss of Load Probability
L/R Balance	Load/Resource Balance
m/kWh	Mills per kilowatthour
MAC	Market Access Coalition Group
MAF	Million Acre Feet
MC	Marginal Cost
MCA	Marginal Cost Analysis
MCS	Model Conservation Standards
MIP	Minimum Irrigation Pool
MMBTU	Million British Thermal Units
MOA	Memorandum of Agreement
MOP	Minimum Operating Pool
MORC	Minimum Operating Reliability Criteria
MPC	Montana Power Company
MT	Market Transmission (rate)
MW	Megawatt (1 million watts)
MWh	Megawatthour
NCD	Non-coincidental Demand
NEC	Northwest Energy Coalition
NEPA	National Environmental Policy Act
NEPOOL	New England Power Pool
NERC	North American Electric Reliability Council
NF	Nonfirm Energy (rate)
NFRAP	Nonfirm Revenue Analysis Program (model)
NLSL	New Large Single Load
NMFS	National Marine Fisheries Service
NOB	Nevada-Oregon Border
NORM	Non-Operating Risk Model

Northwest Power Act	Pacific Northwest Electric Power Planning and Conservation Act
NPV	Net Present Value
NR	New Resource Firm Power (rate)
NRU	Northwest Requirements Utilities
NT	Network Transmission
NTP	Network Integration Transmission (rate)
NTSA	Non-Treaty Storage Agreement
NUG	Non-Utility Generation
NWPP	Northwest Power Pool
NWPPC C&R	Northwest Power Planning Council Cost and Revenues Analysis
NWPPC	Northwest Power Planning Council
O&M	Operation and Maintenance
OMB	Office of Management and Budget
OPUC	Oregon Public Utility Commission
OURCA	Oregon Utility Resource Coordination Association
OY	Operating Year (Aug-Jul)
PA	Public Agency
PacifiCorp	PacifiCorp
PATH	Plan for Analyzing and Testing Hypotheses
PBL	Power Business Line
PDP	Proportional Draft Points
PDR	Power Discharge Requirement
PF	Priority Firm Power (rate)
PFBC	Pressurized Fluidized Bed Combustion
PGE	Portland General Electric
PGP	Public Generating Pool
PMA	Power Marketing Agencies
PMDAM	Power Marketing Decision Analysis Model
PNCA	Pacific Northwest Coordination Agreement
PNGC	Pacific Northwest Generating Cooperative
PNRR	Planned Net Revenues for Risk
PNUCC	Pacific Northwest Utilities Conference Committee
PNW	Pacific Northwest
POD	Point of Delivery
PPC	Public Power Council
PPLM	PP&L Montana, LLC
Principles	Fish and Wildlife Funding Principles
PSE	Puget Sound Energy
PSW	Pacific Southwest
PTP	Point to Point
PUD	Public or People's Utility District
Puget	Puget Sound Energy, Inc.
PURPA	Public Utilities Regulatory Policies Act
RAM	Rate Analysis Model (computer model)
RAS	Remedial Action Scheme

Reclamation	Bureau of Reclamation
Renewable Northwest	Renewable Northwest Project
REP	Residential Exchange Program
RFP	Request for Proposal
RiskMod	Risk Analysis Model (computer model)
RiskSim	Risk Simulation Model
RL	Residential Load (rate)
RMS	Remote Metering System
ROD	Record of Decision
RPSA	Residential Purchase Sale Agreement
RTF	Regional Technical Forum
RTO	Regional Transmission Organization
SCCT	Single-Cycle Combustion Turbine
Shoshone-Bannock	Shoshone-Bannock Tribes
SOS	Save Our Wild Salmon
SPG	Slice Purchasers Group
SPG	Slice Purchasers Group
SS	Share-the-Savings Energy (rate)
STREAM	Short-Term Evaluation and Analysis Model
SUB	Springfield Utility Board
SUMY	Stepped Up Multiyear Block
SWPA	Southwestern Power Administration
TAC	Targeted Adjustment Charge
TACUL	Targeted Adjustment Charge for Uncommitted Loads
TBL	Transmission Business Line
tcf	Trillion Cubic Feet
TCH	Transmission Contract Holder
TDG	Total Dissolved Gas
TPP	Treasury Payment Probability
Transmission System Act	Federal Columbia River Transmission System Act
TRL	Total Retail Load
UAI Charge	Unauthorized Increase Charge
UCUT	Upper Columbia United Tribes
UDC	Utility Distribution Company
URC	Upper Rule Curve
USFWS	U.S. Fish and Wildlife Service
Vanalco	Vanalco, Inc.
VB	Visual Basic
VBA	Visual Basic for Applications
VOR	Value of Reserves
WAPA	Western Area Power Administration
WEFA	WEFA Group (Wharton Econometric Forecasting Associates)
WPAG	Western Public Agencies Group
WPRDS	Wholesale Power Rate Development Study
WSCC	Western Systems Coordinating Council

WSPP  
WUTC  
WY  
Yakama

Western System Power Pool  
Washington Utilities and Transportation Commission  
Watt-Year  
Confederated Tribes and Bands of the Yakama Nation