
BP-22 Rate Proceeding

Final Proposal

Power Loads and Resources Study
Documentation

BP-22-FS-BPA-03A

July 2021



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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
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
COE	U.S. Army Corps of Engineers
COI	California-Oregon Intertie
Commission	Federal Energy Regulatory Commission
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
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
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)
HOSS	Hourly Operating and Scheduling Simulator (computer model)
HYDSIM	Hydrosystem Simulator (computer model)
Hz	Hertz
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
KSI	key strategic initiative
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	National Marine Fisheries Service (NMFS) Federal Columbia River Power System (FCRPS) Biological 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)
NP-15	North of Path 15
NPCC	Northwest Power and Conservation 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
NWPA	Northwest Power Act/Pacific Northwest Electric Power Planning and Conservation Act
NWPP	Northwest Power Pool

O&M	operations and maintenance
OATI	Open Access Technology International, Inc.
OATT	Open Access Transmission Tariff
OCBR	Operational Controls for Balancing Reserves
OS	Oversupply
OY	operating year (August through July)
PDCI	Pacific DC Intertie
PF	Priority Firm Power
PFp	Priority Firm Public
PFx	Priority Firm Exchange
PMA	Power Marketing Administration
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)
RBC	Reliability-based control
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
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

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
UFE	unaccounted for energy
UFT	Use of Facilities Transmission
UIC	Unauthorized Increase Charge
UIE	Uninstructed Imbalance Energy
ULS	Unanticipated Load Service
USACE	U.S. Army Corps of Engineers
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
WSPP	Western Systems Power Pool

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1. DOCUMENTATION FOR – POWER LOADS AND RESOURCES STUDY 1

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**Table 1.1.1
Load Following Service Customers**

	A	B	C
1	Albion, City of	Ellensburg, City of	Milton, Town of
2	Alder Mutual	Elmhurst Mutual P & L	Minidoka, City of
3	Ashland, City of	Energy Northwest	Mission Valley Power
4	Asotin County PUD #1	Fairchild AFB	Missoula Elec Coop
5	Bandon, City of	Fall River Rural Elec Coop	Modern Elec Coop
6	Benton REA	Farmers Elec Coop	Monmouth, City of
7	Big Bend Elec Coop	Ferry County PUD #1	Nespelem Valley Elec Coop
8	Blachly-Lane Electric Coop	Flathead Elec Coop	Northern Lights
9	Blaine, City of	Forest Grove, City of	Northern Wasco County PUD
10	Bonnors Ferry, City of	Glacier Elec Coop	Ohop Mutual Light Company
11	Burley, City of	Grant County PUD #2	Orcas P & L
12	Canby, City of	Harney Elec Coop	Oregon Trail Coop
13	Cascade Locks, City of	Hermiston, City of	Parkland L & W
14	Central Lincoln	Heyburn, City of	Peninsula Light Company
15	Central MT Elec Power Coop	Hood River Elec Coop	Plummer, City of
16	Centralia, City of	Idaho County L & P	Port Angeles, City of
17	Cheney, City of	Inland P & L	Port of Seattle
18	Chewelah, City of	Jefferson County PUD	Puget Sound Naval Shipyard (Bremerton)
19	Clallam County PUD #1	Kalispel Tribe Utility	Raft River Rural Elec Coop
20	Clearwater Power	Kittitas County PUD #1	Ravalli Elec Coop
21	Columbia Basin Elec Coop	Klickitat	Richland, City of
22	Columbia Power Coop	Kootenai Electric Coop	Riverside Elec Coop
23	Columbia REA	Lakeview L & P (WA)	Rupert, City of
24	Columbia River PUD	Lane Elec Coop	Salem Elec Coop
25	Consol Irrig Dist #19	Lincoln Elec Coop	Salmon River Elec Coop
26	Consumer's Power	Lost River Elec Coop	Skamania County PUD #1
27	Coos-Curry Electric Coop	Lower Valley P & L	Soda Springs, City of
28	Coulee Dam, City of	Mason County PUD #1	South Side Elec
29	Declo, City of	Mason County PUD #3	Springfield Utiltiy Board
30	Douglas Electric Coop	McCleary, City of	Steilacoom, Town of
31	Drain, City of	McMinnville, City of	Sumas, Town of
32	East End Mutual Electric	Midstate Elec Coop	Surprise Valley Elec Coop
33	Eatonville, City of	Milton Freewater, City of	Wahkiakum County PUD #1
34	Tanner Elec Coop	Umpqua Indian Utility Cooperative	Wasco Elec Coop
35	Tillamook PUD #1	United Electric Coop	Weiser, City of
36	Troy, City of	USBIA Wapato	Wells Rural Elec Co
37	U.S. Bureau of Reclamation (Roza)	USDOE-Albany	West Oregon Elec Coop
38	U.S. Naval Station, Everett (Jim Creek)	USDOE-Richland	Whatcom County PUD #1
39	U.S. Naval Submarine Base (Bangor)	Vera Irrigation District	Yakama Power
40	Umatilla Elec Coop	Vigilante Elec Coop	

**Table 1.1.2
Tier 1 Block Service Customers**

	A	B	C
1	Okanogan PUD	Pend Oreille	Seattle

**Table 1.1.3
Slice Service Customers**

	A	B	C
1	Benton PUD	EWEB	Lewis
2	Clark	Franklin	Pacific
3	Clatskanie	Grays Harbor	Snohomish
4	Cowlitz	Idaho Falls	Tacoma
5	Emerald		

**Table 1.1.4
USBR Obligation Customers**

	A	B	C
1	USBR Chief Joseph Project	USBR Rathdrum Prairie Project	USBR Tualatin Valley Project
2	USBR Columbia Basin Project	USBR Southern Idaho Projects	USBR Owyhee Project
3	USBR Crooked River Project	USBR Spokane Indian Development Project	USBR Umatilla Project
4	USBR The Dalles Reclamation Project	USBR Spokane Valley Project	USBR Yakima Project

Table 1.2.1
BPA Sales to Preference and Legacy Customers
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/15/2021

S215-RC-20210504-203021															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Pacific Northwest															
1 DSI Obligation	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
2 Direct Service Industry	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
3 Load Following	2854	3237	3906	3903	3603	3205	2984	2984	2846	3073	3290	3206	3210	2812	3243
4 Cooperative	1559	1763	2144	2117	1968	1720	1636	1636	1662	1869	2009	1922	1924	1636	1834
5 Municipality	479	553	658	672	610	549	500	500	452	465	503	501	502	454	533
6 Public Utility District	718	808	961	967	898	819	748	748	642	645	673	678	679	629	765
7 Federal Entities	99.0	113	143	146	127	117	101	101	90.1	94.1	105	105	105	93.3	111
8 Slice Block	1170	1366	1565	1558	1428	1316	1224	1224	1191	1163	1217	1190	1190	1136	1293
9 Municipality	251	297	360	357	341	330	292	292	249	240	263	258	258	259	291
10 Public Utility District	919	1070	1205	1201	1087	986	932	932	942	923	954	932	932	877	1002
11 Slice Output from T1 System	1370	1790	1697	1402	1345	1452	1214	1118	1642	1798	1583	1560	1495	1465	1521
12 Municipality	325	424	403	332	319	344	288	265	389	426	375	370	355	348	361
13 Public Utility District	1045	1365	1295	1069	1026	1108	926	853	1252	1372	1208	1190	1141	1118	1160
14 Tier 1 Block	445	710	715	777	730	695	357	357	130	20.2	285	320	321	523	474
15 Municipality	406	664	654	710	668	640	320	320	101	0	243	289	289	487	431
16 Public Utility District	39.7	45.8	61.4	67.6	61.7	55.2	37.8	37.8	28.4	20.2	41.3	31.4	31.5	35.7	43.8
17 Tier 2 - Load Growth	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
18 Cooperative	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
19 Municipality	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19
20 Public Utility District	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
21 Federal Entities	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44	8.44
22 Tier 2 - Short Term	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143
23 Cooperative	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112
24 Municipality	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
25 Public Utility District	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
26 Federal Entities	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61
27 USBR Obligation	123	9.66	10.8	8.39	18.0	60.9	234	234	345	395	427	330	329	286	188
28 USBR	123	9.66	10.8	8.39	18.0	60.9	234	234	345	395	427	330	329	286	188

Table 1.2.1
BPA Sales to Preference and Legacy Customers
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/15/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Total Power Sales Contracts															
29 Cooperative	1672	1876	2257	2230	2081	1833	1749	1749	1775	1982	2122	2035	2037	1749	1947
30 Direct Service Industry	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
31 Federal Entities	110	124	154	157	138	128	112	112	101	105	116	116	116	104	122
32 Municipality	1478	1956	2093	2089	1956	1881	1417	1394	1210	1149	1403	1435	1421	1565	1633
33 Public Utility District	2736	3304	3536	3320	3088	2983	2658	2586	2879	2975	2891	2847	2798	2674	2986
34 USBR	123	9.66	10.8	8.39	18.0	60.9	234	234	345	395	427	330	329	286	188
35 Total Power Sales Contracts	6131	7281	8063	7817	7293	6898	6182	6087	6322	6617	6971	6776	6713	6391	6888

Table 1.2.1
BPA Sales to Preference and Legacy Customers
Fiscal Year 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/15/2021

S215-RC-20210504-203021															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Pacific Northwest															
1 DSI Obligation	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
2 Direct Service Industry	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
3 Load Following	2862	3265	3936	3936	3637	3237	3029	3006	2877	3100	3318	3236	3240	2858	3273
4 Cooperative	1573	1778	2159	2131	1984	1735	1657	1644	1676	1883	2022	1937	1939	1651	1848
5 Municipality	482	556	661	676	613	552	505	500	455	468	506	504	504	456	536
6 Public Utility District	704	814	968	977	908	828	760	754	650	654	683	688	689	655	773
7 Federal Entities	103	117	148	152	133	123	108	108	96.3	96.1	107	107	107	96.2	116
8 Slice Block	1217	1419	1623	1616	1482	1368	1274	1274	1238	1210	1265	1238	1238	1183	1344
9 Municipality	259	306	372	369	352	341	301	301	257	248	272	266	266	267	301
10 Public Utility District	958	1113	1251	1247	1130	1027	972	972	981	962	994	972	972	916	1044
11 Slice Output from T1 System	1367	1786	1694	1399	1342	1450	1206	1111	1476	1645	1580	1559	1492	1463	1491
12 Municipality	324	423	402	332	318	344	286	264	350	390	375	370	354	347	354
13 Public Utility District	1043	1362	1292	1068	1024	1106	920	848	1126	1255	1205	1189	1138	1116	1138
14 Tier 1 Block	444	708	713	775	728	693	358	355	129	20.2	284	319	320	521	473
15 Municipality	404	662	652	708	666	638	320	317	101	0	243	288	288	486	429
16 Public Utility District	39.7	45.8	61.4	67.6	61.7	55.2	38.0	37.7	28.4	20.2	41.3	31.4	31.5	35.7	43.8
17 Tier 2 - Load Growth	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18 Cooperative	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
19 Municipality	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22	3.22
20 Public Utility District	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12
21 Federal Entities	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
22 Tier 2 - Short Term	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
23 Cooperative	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
24 Municipality	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
25 Public Utility District	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
26 Federal Entities	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
27 USBR Obligation	123	9.66	10.8	8.39	18.0	60.9	233	235	345	395	427	330	329	286	188
28 USBR	123	9.66	10.8	8.39	18.0	60.9	233	235	345	395	427	330	329	286	188

Table 1.2.1
BPA Sales to Preference and Legacy Customers
Fiscal Year 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/15/2021

S215-RC-20210504-203021															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Total Power Sales Contracts															
29 Cooperative	1699	1904	2285	2258	2110	1861	1783	1770	1802	2009	2148	2063	2065	1777	1975
30 Direct Service Industry	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
31 Federal Entities	114	129	159	164	144	134	119	119	108	107	119	119	119	108	127
32 Municipality	1489	1967	2106	2103	1969	1894	1432	1401	1182	1125	1414	1446	1432	1575	1638
33 Public Utility District	2761	3352	3590	3376	3140	3032	2707	2628	2802	2907	2939	2897	2847	2739	3015
34 USBR	123	9.66	10.8	8.39	18.0	60.9	233	235	345	395	427	330	329	286	188
35 Total Power Sales Contracts	6198	7373	8163	7920	7393	6994	6286	6166	6251	6555	7059	6868	6804	6496	6955

Table 1.2.2
BPA Sales to Preference and Legacy Customers
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/15/2021

S215-RC-20210504-203021															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Pacific Northwest															
1 DSI Obligation	5,084	4,747	4,809	4,826	4,533	5,081	2,442	2,442	4,886	4,936	4,824	2,470	2,660	4,570	58,311
2 Direct Service Industry	5,084	4,747	4,809	4,826	4,533	5,081	2,442	2,442	4,886	4,936	4,824	2,470	2,660	4,570	58,311
3 Load Following	1,295,633	1,379,134	1,708,460	1,687,782	1,460,610	1,449,795	654,166	654,166	1,249,053	1,373,191	1,447,808	721,838	777,364	1,209,323	17,068,321
4 Cooperative	706,777	746,001	926,627	915,639	793,204	771,166	354,656	354,656	727,048	827,988	876,648	429,342	462,368	694,651	9,586,771
5 Municipality	222,040	240,477	294,186	293,635	251,849	254,066	112,868	112,868	204,143	214,923	229,562	116,753	125,734	202,110	2,875,216
6 Public Utility District	322,917	346,304	427,187	416,701	365,947	373,677	165,110	165,110	279,335	289,041	295,691	152,593	164,330	273,371	4,037,313
7 Federal Entities	43,899	46,351	60,459	61,807	49,610	50,885	21,532	21,532	38,527	41,239	45,907	23,150	24,931	39,191	569,021
8 Slice Block	486,728	546,510	651,090	623,391	548,385	568,712	254,616	254,616	476,338	483,955	486,766	247,492	266,530	454,366	6,349,495
9 Municipality	104,493	118,634	149,925	142,945	131,115	142,732	60,773	60,773	99,716	100,005	105,346	53,595	57,718	103,523	1,431,292
10 Public Utility District	382,235	427,876	501,165	480,446	417,270	425,981	193,844	193,844	376,622	383,950	381,420	193,897	208,813	350,843	4,918,204
11 Slice Output from T1 System	651,448	787,849	704,824	604,142	524,982	660,956	271,752	246,764	813,225	917,935	786,876	386,346	380,857	673,001	8,410,955
12 Municipality	154,493	186,841	167,151	143,274	124,501	156,748	64,447	58,521	192,859	217,691	186,610	91,623	90,321	159,605	1,994,687
13 Public Utility District	496,955	601,008	537,672	460,867	400,481	504,208	207,305	188,243	620,366	700,243	600,265	294,723	290,535	513,397	6,416,268
14 Tier 1 Block	198,794	307,244	319,367	347,026	294,201	309,815	77,204	77,204	57,928	8,747	127,056	68,878	74,176	225,916	2,493,558
15 Municipality	181,070	287,448	291,975	316,872	269,341	285,185	69,033	69,033	45,268	0	108,642	62,117	66,895	210,494	2,263,371
16 Public Utility District	17,725	19,796	27,392	30,154	24,860	24,630	8,172	8,172	12,660	8,747	18,415	6,761	7,281	15,422	230,187
17 Tier 2 - Load Growth	5,750	5,529	5,750	5,529	5,308	5,972	2,875	2,875	5,529	5,750	5,529	2,875	3,096	5,529	67,899
18 Cooperative	462	444	462	444	426	480	231	231	444	462	444	231	249	444	5,452
19 Municipality	1,325	1,274	1,325	1,274	1,223	1,376	663	663	1,274	1,325	1,274	663	714	1,274	15,650
20 Public Utility District	451	433	451	433	416	468	225	225	433	451	433	225	243	433	5,320
21 Federal Entities	3,513	3,378	3,513	3,378	3,242	3,648	1,756	1,756	3,378	3,513	3,378	1,756	1,891	3,378	41,477
22 Tier 2 - Short Term	59,391	57,107	59,391	57,107	54,823	61,675	29,696	29,696	57,107	59,391	57,107	29,696	31,980	57,107	701,272
23 Cooperative	46,550	44,760	46,550	44,760	42,969	48,340	23,275	23,275	44,760	46,550	44,760	23,275	25,065	44,760	549,648
24 Municipality	6,024	5,792	6,024	5,792	5,561	6,256	3,012	3,012	5,792	6,024	5,792	3,012	3,244	5,792	71,131
25 Public Utility District	5,730	5,509	5,730	5,509	5,289	5,950	2,865	2,865	5,509	5,730	5,509	2,865	3,085	5,509	67,653
26 Federal Entities	1,087	1,046	1,087	1,046	1,004	1,129	544	544	1,046	1,087	1,046	544	586	1,046	12,840
27 USBR Obligation	36,156	3,138	4,699	3,505	4,797	17,550	42,096	42,096	125,634	132,884	142,994	47,372	51,016	84,467	738,402
28 USBR	36,156	3,138	4,699	3,505	4,797	17,550	42,096	42,096	125,634	132,884	142,994	47,372	51,016	84,467	738,402

Table 1.2.2
BPA Sales to Preference and Legacy Customers
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/15/2021

S215-RC-20210504-203021															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Total Power Sales Contracts															
29 Cooperative	753,789	791,205	973,639	960,842	836,599	819,986	378,162	378,162	772,252	875,000	921,851	452,848	487,682	739,854	10,141,871
30 Direct Service Industry	5,084	4,747	4,809	4,826	4,533	5,081	2,442	2,442	4,886	4,936	4,824	2,470	2,660	4,570	58,311
31 Federal Entities	48,499	50,774	65,059	66,230	53,856	55,662	23,832	23,832	42,950	45,839	50,330	25,450	27,408	43,614	623,338
32 Municipality	669,445	840,467	910,586	903,793	783,591	846,363	310,796	304,869	549,053	539,969	637,227	327,763	344,626	682,799	8,651,346
33 Public Utility District	1,226,012	1,400,926	1,499,597	1,394,111	1,214,262	1,334,913	577,520	558,458	1,294,925	1,388,161	1,301,733	651,063	674,287	1,158,976	15,674,944
34 USBR	36,156	3,138	4,699	3,505	4,797	17,550	42,096	42,096	125,634	132,884	142,994	47,372	51,016	84,467	738,402
35 Total Power Sales Contracts	2,738,985	3,091,257	3,458,389	3,333,308	2,897,638	3,079,555	1,334,847	1,309,859	2,789,699	2,986,790	3,058,959	1,506,966	1,587,679	2,714,280	35,888,212

Table 1.2.2
BPA Sales to Preference and Legacy Customers
Fiscal Year 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/15/2021

S215-RC-20210504-203021															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Pacific Northwest															
1 DSI Obligation	5,084	4,747	4,809	4,826	4,533	5,081	2,540	2,345	4,886	4,936	4,824	2,470	2,660	4,570	58,310
2 Direct Service Industry	5,084	4,747	4,809	4,826	4,533	5,081	2,540	2,345	4,886	4,936	4,824	2,470	2,660	4,570	58,310
3 Load Following	1,301,017	1,389,953	1,720,116	1,703,385	1,474,948	1,463,166	677,119	625,033	1,281,008	1,386,951	1,461,067	728,430	784,463	1,228,115	17,224,771
4 Cooperative	714,681	751,075	931,014	923,118	800,035	776,598	369,544	341,117	738,040	836,017	883,772	432,722	466,008	700,752	9,664,493
5 Municipality	223,317	241,780	295,680	295,097	253,154	255,402	115,247	106,382	210,236	216,193	230,813	117,360	126,388	203,111	2,890,160
6 Public Utility District	317,396	348,870	430,441	420,826	369,714	377,692	168,789	155,806	291,002	292,627	299,678	154,678	166,577	283,817	4,077,913
7 Federal Entities	45,623	48,228	62,980	64,344	52,045	53,473	23,538	21,728	41,730	42,115	46,804	23,670	25,491	40,435	592,205
8 Slice Block	506,452	567,696	675,276	646,455	569,240	590,901	264,942	244,562	515,079	503,384	506,142	257,454	277,258	473,172	6,598,014
9 Municipality	107,832	122,412	154,702	147,504	135,299	147,283	62,712	57,888	107,007	103,192	108,708	55,307	59,561	106,829	1,476,236
10 Public Utility District	398,620	445,284	520,574	498,950	433,940	443,618	202,231	186,674	408,072	400,192	397,434	202,147	217,697	366,344	5,121,778
11 Slice Output from T1 System	654,500	794,199	736,694	581,392	524,189	663,326	271,247	241,766	749,920	849,732	780,588	384,827	380,456	669,923	8,282,759
12 Municipality	155,217	188,347	174,710	137,879	124,313	157,310	64,327	57,336	177,846	201,517	185,119	91,263	90,226	158,875	1,964,285
13 Public Utility District	499,283	605,852	561,985	443,513	399,876	506,016	206,920	184,430	572,074	648,215	595,469	293,564	290,229	511,048	6,318,474
14 Tier 1 Block	198,237	306,360	318,469	346,052	293,373	308,938	80,072	73,913	57,788	8,747	126,722	68,687	73,970	225,269	2,486,598
15 Municipality	180,513	286,564	291,077	315,898	268,513	284,308	71,573	66,068	45,128	0	108,308	61,926	66,690	209,846	2,256,411
16 Public Utility District	17,725	19,796	27,392	30,154	24,860	24,630	8,498	7,845	12,660	8,747	18,415	6,761	7,281	15,422	230,187
17 Tier 2 - Load Growth	5,813	5,589	5,813	5,589	5,366	6,036	2,906	2,683	5,813	5,813	5,589	2,906	3,130	5,589	68,635
18 Cooperative	428	412	428	412	396	445	214	198	428	428	412	214	231	412	5,059
19 Municipality	1,340	1,288	1,340	1,288	1,237	1,391	670	618	1,340	1,340	1,288	670	722	1,288	15,822
20 Public Utility District	466	448	466	448	430	484	233	215	466	466	448	233	251	448	5,501
21 Federal Entities	3,578	3,441	3,578	3,441	3,303	3,716	1,789	1,652	3,578	3,578	3,441	1,789	1,927	3,441	42,253
22 Tier 2 - Short Term	66,239	63,692	66,239	63,692	61,144	68,787	33,120	30,572	66,239	66,239	63,692	33,120	35,667	63,692	782,133
23 Cooperative	52,064	50,061	52,064	50,061	48,059	54,066	26,032	24,029	52,064	52,064	50,061	26,032	28,034	50,061	614,752
24 Municipality	6,609	6,355	6,609	6,355	6,101	6,864	3,305	3,050	6,609	6,609	6,355	3,305	3,559	6,355	78,042
25 Public Utility District	6,415	6,168	6,415	6,168	5,922	6,662	3,208	2,961	6,415	6,415	6,168	3,208	3,454	6,168	75,748
26 Federal Entities	1,151	1,107	1,151	1,107	1,063	1,195	576	531	1,151	1,151	1,107	576	620	1,107	13,592
27 USBR Obligation	36,156	3,138	4,699	3,505	4,797	17,550	43,739	40,375	125,833	132,884	142,994	47,372	51,016	84,467	738,523
28 USBR	36,156	3,138	4,699	3,505	4,797	17,550	43,739	40,375	125,833	132,884	142,994	47,372	51,016	84,467	738,523

Table 1.2.2
BPA Sales to Preference and Legacy Customers
Fiscal Year 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/15/2021

S215-RC-20210504-203021															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Total Power Sales Contracts															
29 Cooperative	767,173	801,548	983,506	973,591	848,489	831,109	395,790	365,344	790,532	888,509	934,246	458,968	494,273	751,225	10,284,304
30 Direct Service Industry	5,084	4,747	4,809	4,826	4,533	5,081	2,540	2,345	4,886	4,936	4,824	2,470	2,660	4,570	58,310
31 Federal Entities	50,353	52,775	67,710	68,892	56,411	58,385	25,903	23,911	46,460	46,845	51,351	26,035	28,038	44,982	648,049
32 Municipality	674,828	846,746	924,117	904,022	788,617	852,559	317,835	291,342	548,166	528,851	640,592	329,830	347,145	686,305	8,680,956
33 Public Utility District	1,239,904	1,426,419	1,547,274	1,400,060	1,234,742	1,359,102	589,879	537,931	1,290,690	1,356,662	1,317,612	660,590	685,488	1,183,248	15,829,601
34 USBR	36,156	3,138	4,699	3,505	4,797	17,550	43,739	40,375	125,833	132,884	142,994	47,372	51,016	84,467	738,523
35 Total Power Sales Contracts	2,773,499	3,135,374	3,532,115	3,354,896	2,937,589	3,123,785	1,375,685	1,261,247	2,806,566	2,958,687	3,091,618	1,525,265	1,608,620	2,754,797	36,239,744

Table 1.2.3
BPA Sales to Preference and Legacy Customers
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/15/2021

S215-RC-20210504-203021															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Pacific Northwest															
1 DSI Obligation	3,844	3,905	4,119	4,102	3,531	3,835	1,878	1,878	4,043	3,704	4,104	1,850	1,948	4,070	46,810
2 Direct Service Industry	3,844	3,905	4,119	4,102	3,531	3,835	1,878	1,878	4,043	3,704	4,104	1,850	1,948	4,070	46,810
3 Load Following	828,041	954,632	1,197,378	1,215,780	960,552	931,355	420,175	420,175	868,589	839,225	1,000,280	432,436	455,196	815,491	11,339,303
4 Cooperative	452,753	525,456	668,654	659,520	529,485	507,127	234,216	234,216	509,724	517,337	618,105	262,641	276,464	483,539	6,479,237
5 Municipality	134,436	158,092	195,457	206,438	157,828	153,939	66,985	66,985	132,377	119,703	144,624	63,622	66,970	124,684	1,792,140
6 Public Utility District	211,077	236,313	287,540	302,718	237,704	234,525	104,143	104,143	197,980	175,680	205,184	91,562	96,381	179,290	2,664,239
7 Federal Entities	29,776	34,771	45,727	47,104	35,535	35,764	14,830	14,830	28,508	26,504	32,367	14,612	15,381	27,979	403,688
8 Slice Block	383,766	438,564	513,358	536,126	411,286	409,415	186,064	186,064	409,658	353,656	418,626	180,856	190,375	363,486	4,981,302
9 Municipality	82,389	95,202	118,210	122,935	98,336	102,752	44,410	44,410	85,757	73,080	90,599	39,165	41,226	82,817	1,121,288
10 Public Utility District	301,378	343,363	395,149	413,191	312,951	306,663	141,654	141,654	323,900	280,576	328,027	141,692	149,149	280,669	3,860,014
11 Slice Output from T1 System	367,638	502,651	558,001	438,622	379,027	418,249	165,118	155,861	408,310	376,538	391,069	175,373	193,327	382,056	4,911,841
12 Municipality	87,187	119,206	132,332	104,021	89,888	99,189	39,158	36,963	96,832	89,297	92,743	41,590	45,848	90,606	1,164,860
13 Public Utility District	280,451	383,446	425,669	334,602	289,139	319,060	125,960	118,898	311,478	287,241	298,326	133,783	147,479	291,450	3,746,981
14 Tier 1 Block	132,529	204,829	212,911	231,351	196,134	206,543	51,469	51,469	38,618	5,831	84,704	46,462	48,907	150,611	1,662,371
15 Municipality	120,713	191,632	194,650	211,248	179,561	190,123	46,022	46,022	30,178	-	72,428	41,901	44,107	140,329	1,508,914
16 Public Utility District	11,816	13,197	18,261	20,103	16,574	16,420	5,448	5,448	8,440	5,831	12,277	4,560	4,800	10,282	153,457
17 Tier 2 - Load Growth	4,534	4,437	4,534	4,755	3,981	4,299	2,101	2,101	4,755	4,202	4,755	2,101	2,212	4,423	53,191
18 Cooperative	364	356	364	382	320	345	169	169	382	337	382	169	178	355	4,271
19 Municipality	1,045	1,023	1,045	1,096	918	991	484	484	1,096	969	1,096	484	510	1,020	12,260
20 Public Utility District	355	348	355	373	312	337	165	165	373	329	373	165	173	347	4,167
21 Federal Entities	2,770	2,711	2,770	2,905	2,432	2,626	1,283	1,283	2,905	2,567	2,905	1,283	1,351	2,702	32,493
22 Tier 2 - Short Term	46,828	45,828	46,828	49,112	41,117	44,401	21,701	21,701	49,112	43,401	49,112	21,701	22,843	45,685	549,367
23 Cooperative	36,703	35,920	36,703	38,493	32,227	34,801	17,009	17,009	38,493	34,017	38,493	17,009	17,904	35,808	430,587
24 Municipality	4,750	4,648	4,750	4,981	4,171	4,504	2,201	2,201	4,981	4,402	4,981	2,201	2,317	4,634	55,723
25 Public Utility District	4,518	4,421	4,518	4,738	3,967	4,283	2,093	2,093	4,738	4,187	4,738	2,093	2,204	4,407	52,999
26 Federal Entities	857	839	857	899	753	813	397	397	899	795	899	397	418	836	10,059
27 USBR Obligation	55,183	3,830	3,346	2,739	7,315	27,735	42,181	42,181	131,064	151,239	174,839	71,547	75,313	121,462	909,974
28 USBR	55,183	3,830	3,346	2,739	7,315	27,735	42,181	42,181	131,064	151,239	174,839	71,547	75,313	121,462	909,974

Table 1.2.3
BPA Sales to Preference and Legacy Customers
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/15/2021

S215-RC-20210504-203021															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Total Power Sales Contracts															
29 Cooperative	489,820	561,732	705,721	698,395	562,032	542,273	251,394	251,394	548,600	551,692	656,980	279,818	294,545	519,702	6,914,096
30 Direct Service Industry	3,844	3,905	4,119	4,102	3,531	3,835	1,878	1,878	4,043	3,704	4,104	1,850	1,948	4,070	46,810
31 Federal Entities	33,403	38,320	49,354	50,908	38,720	39,203	16,511	16,511	32,312	29,866	36,171	16,293	17,151	31,517	446,239
32 Municipality	430,519	569,802	646,443	650,719	530,700	551,498	199,261	197,066	351,223	287,452	406,472	188,963	200,978	444,089	5,655,185
33 Public Utility District	809,594	981,088	1,131,492	1,075,724	860,646	881,287	379,463	372,401	846,908	753,844	848,924	373,854	400,186	766,445	10,481,857
34 USBR	55,183	3,830	3,346	2,739	7,315	27,735	42,181	42,181	131,064	151,239	174,839	71,547	75,313	121,462	909,974
35 Total Power Sales Contracts	1,822,362	2,158,677	2,540,475	2,482,587	2,002,944	2,045,832	890,687	881,430	1,914,148	1,777,797	2,127,491	932,326	990,120	1,887,285	24,454,160

Table 1.2.3

BPA Sales to Preference and Legacy Customers
Fiscal Year 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/15/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Pacific Northwest															
1 DSI Obligation	3,844	3,905	4,119	4,102	3,531	3,835	1,784	1,972	4,043	3,704	4,104	1,850	1,948	4,070	46,810
2 Direct Service Industry	3,844	3,905	4,119	4,102	3,531	3,835	1,784	1,972	4,043	3,704	4,104	1,850	1,948	4,070	46,810
3 Load Following	828,058	964,290	1,208,411	1,224,901	969,444	942,047	413,461	456,984	859,762	845,292	1,007,168	436,580	459,558	829,628	11,445,586
4 Cooperative	455,409	530,846	674,969	662,638	533,099	512,199	226,931	250,818	508,841	519,647	620,579	264,570	278,495	488,006	6,527,047
5 Municipality	135,222	158,974	196,450	207,481	158,657	154,760	66,521	73,523	128,292	120,419	145,435	63,963	67,330	125,320	1,802,347
6 Public Utility District	206,498	238,186	290,033	305,791	240,467	237,487	104,648	115,663	192,719	178,153	208,104	93,099	97,999	187,447	2,696,294
7 Federal Entities	30,929	36,285	46,959	48,992	37,221	37,601	15,362	16,979	29,910	27,073	33,049	14,947	15,734	28,856	419,898
8 Slice Block	399,318	455,567	532,428	555,961	426,928	425,388	193,608	213,988	406,119	367,854	435,290	188,136	198,038	378,531	5,177,154
9 Municipality	85,021	98,233	121,976	126,856	101,474	106,029	45,827	50,651	84,370	75,409	93,491	40,416	42,543	85,461	1,157,759
10 Public Utility District	314,296	357,333	410,452	429,105	325,454	319,359	147,781	163,337	321,749	292,445	341,799	147,720	155,494	293,070	4,019,395
11 Slice Output from T1 System	362,428	493,305	523,774	459,779	377,953	413,738	163,082	158,248	348,047	334,345	394,646	176,263	192,610	383,381	4,781,599
12 Municipality	85,951	116,989	124,215	109,038	89,633	98,120	38,675	37,529	82,540	79,291	93,592	41,801	45,678	90,920	1,133,973
13 Public Utility District	276,477	376,316	399,559	350,741	288,320	315,619	124,407	120,719	265,506	255,054	301,054	134,462	146,932	292,461	3,647,626
14 Tier 1 Block	132,158	204,240	212,313	230,702	195,582	205,959	48,762	53,894	38,526	5,831	84,482	46,333	48,772	150,179	1,657,732
15 Municipality	120,342	191,043	194,051	210,599	179,009	189,539	43,586	48,174	30,085	0	72,205	41,772	43,971	139,898	1,504,274
16 Public Utility District	11,816	13,197	18,261	20,103	16,574	16,420	5,175	5,720	8,440	5,831	12,277	4,560	4,800	10,282	153,457
17 Tier 2 - Load Growth	4,583	4,485	4,583	4,807	4,024	4,346	2,124	2,347	4,583	4,248	4,807	2,124	2,236	4,471	53,768
18 Cooperative	338	331	338	354	297	320	157	173	338	313	354	157	165	330	3,963
19 Municipality	1,056	1,034	1,056	1,108	928	1,002	490	541	1,056	979	1,108	490	515	1,031	12,394
20 Public Utility District	367	360	367	385	323	348	170	188	367	340	385	170	179	358	4,310
21 Federal Entities	2,821	2,761	2,821	2,959	2,477	2,675	1,308	1,445	2,821	2,615	2,959	1,308	1,376	2,753	33,100
22 Tier 2 - Short Term	52,227	51,113	52,227	54,775	45,858	49,520	24,203	26,750	52,227	48,406	54,775	24,203	25,477	50,953	612,713
23 Cooperative	41,050	40,174	41,050	43,053	36,044	38,923	19,023	21,026	41,050	38,047	43,053	19,023	20,024	40,049	481,589
24 Municipality	5,211	5,100	5,211	5,465	4,576	4,941	2,415	2,669	5,211	4,830	5,465	2,415	2,542	5,084	61,137
25 Public Utility District	5,058	4,950	5,058	5,305	4,441	4,796	2,344	2,591	5,058	4,688	5,305	2,344	2,467	4,935	59,340
26 Federal Entities	908	888	908	952	797	861	421	465	908	841	952	421	443	885	10,647
27 USBR Obligation	55,183	3,830	3,346	2,739	7,315	27,735	40,109	44,331	130,864	151,239	174,839	71,547	75,313	121,462	909,853
28 USBR	55,183	3,830	3,346	2,739	7,315	27,735	40,109	44,331	130,864	151,239	174,839	71,547	75,313	121,462	909,853

Table 1.2.3

BPA Sales to Preference and Legacy Customers

Fiscal Year 2023 Water Year: 1937

BP22 Final Proposal - Rate Case Study Report Date: 6/15/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Total Power Sales Contracts															
29 Cooperative	496,797	571,350	716,357	706,045	569,440	551,442	246,110	272,017	550,230	558,007	663,986	283,750	298,684	528,385	7,012,599
30 Direct Service Industry	3,844	3,905	4,119	4,102	3,531	3,835	1,784	1,972	4,043	3,704	4,104	1,850	1,948	4,070	46,810
31 Federal Entities	34,658	39,934	50,688	52,903	40,496	41,137	17,090	18,889	33,639	30,529	36,960	16,675	17,553	32,494	463,646
32 Municipality	432,804	571,373	642,960	660,547	534,276	554,390	197,514	213,088	331,556	280,928	411,296	190,858	202,580	447,714	5,671,885
33 Public Utility District	814,513	990,342	1,123,731	1,111,430	875,578	894,030	384,525	408,218	793,839	736,512	868,924	382,355	407,872	788,552	10,580,422
34 USBR	55,183	3,830	3,346	2,739	7,315	27,735	40,109	44,331	130,864	151,239	174,839	71,547	75,313	121,462	909,853
35 Total Power Sales Contracts	1,837,799	2,180,735	2,541,201	2,537,766	2,030,636	2,072,569	887,133	958,514	1,844,170	1,760,920	2,160,111	947,036	1,003,949	1,922,677	24,685,215

2. OTHER CONTRACT DELIVERIES AND PURCHASE FORECASTS17

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Table 2.1.1
Bonneville Power Administration - Power Services Exports
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/9/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Canada															
Contracts															
1 BPA-P to BCHP Trty CEA	454	454	454	454	454	454	454	454	454	454	454	454	454	454	454
2 BPA-P to BCHP NTSA Del	0	0	0	0	0	0	0	0	0	0	17.5	59.9	141	0	10.2
3 Total Exports to CAN	454	454	454	454	454	454	454	454	454	454	472	514	596	454	464
Inland Southwest															
Contracts															
4 BPA-P to Other Entities	25.0	25.0	25.0	0	0	0	0	0	0	0	0	0	0	0	6.30
5 Total Exports to ISW	25.0	25.0	25.0	0	0	0	0	0	0	0	0	0	0	0	6.30
Pacific Southwest															
Contracts															
6 BPA-P to Other Entities	175	175	175	0	0	0	0	0	0	0	0	0	0	0	44.1
7 Intertie Losses	5	5	5	0	0	0	0	0	0	0	0	0	0	0	1.3
8 Total Exports to PSW	180	180	180	0	0	0	0	0	0	0	0	0	0	0	45.5
Total Exports															
9 Federal Entities	660	660	660	454	454	454	454	454	454	454	472	514	596	454	516
10 Total Exports	660	660	660	454	454	454	454	454	454	454	472	514	596	454	516

Table 2.1.1
Bonneville Power Administration - Power Services Exports
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/9/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Canada															
Contracts															
1 BPA-P to BCHP Trty CEA	454	454	454	454	454	454	454	454	454	454	454	454	454	454	454
2 BPA-P to BCHP NTSA Del	0	0	0	0	0	0	0	0	0	0	17.5	59.9	141	0	10.2
3 Total Exports to CAN	454	454	454	454	454	454	454	454	454	454	472	514	596	454	464
Total Exports															
4 Federal Entities	454	454	454	454	454	454	454	454	454	454	472	514	596	454	464
5 Total Exports	454	454	454	454	454	454	454	454	454	454	472	514	596	454	464

Table 2.1.2
Bonneville Power Administration - Power Services Exports
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/9/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Canada															
Contracts															
1 BPA-P to BCHP Trty CEA	337,999	327,550	337,999	337,999	305,290	337,545	163,548	163,548	337,999	327,096	337,999	163,548	174,451	327,096	3,979,668
2 BPA-P to BCHP NTSA Del	-	-	-	-	-	-	-	-	-	-	7,002	12,467	31,685	-	51,154
3 Total Exports to CAN	337,999	327,550	337,999	337,999	305,290	337,545	163,548	163,548	337,999	327,096	345,001	176,015	206,136	327,096	4,030,822
Inland Southwest															
Contracts															
4 BPA-P to Other Entities	10,400	10,000	10,400	-	-	-	-	-	-	-	-	-	-	-	30,800
5 Total Exports to ISW	10,400	10,000	10,400	-	-	-	-	-	-	-	-	-	-	-	30,800
Pacific Southwest															
Contracts															
6 BPA-P to Other Entities	72,800	70,000	72,800	-	-	-	-	-	-	-	-	-	-	-	215,600
7 Intertie Losses	2,184	2,100	2,184	-	-	-	-	-	-	-	-	-	-	-	6,468
8 Total Exports to PSW	74,984	72,100	74,984	-	-	-	-	-	-	-	-	-	-	-	222,068
Total Exports															
9 Federal Entities	423,383	409,650	423,383	337,999	305,290	337,545	163,548	163,548	337,999	327,096	345,001	176,015	206,136	327,096	4,283,690
10 Total Exports	423,383	409,650	423,383	337,999	305,290	337,545	163,548	163,548	337,999	327,096	345,001	176,015	206,136	327,096	4,283,690

Table 2.1.2
Bonneville Power Administration - Power Services Exports
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/9/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Canada															
Contracts															
1 BPA-P to BCHP Trty CEA	337,999	327,550	337,999	337,999	305,290	337,545	163,548	163,548	337,999	327,096	337,999	163,548	174,451	327,096	3,979,668
2 BPA-P to BCHP NTSA Del	-	-	-	-	-	-	-	-	-	-	7,002	12,466	31,686	-	51,154
3 Total Exports to CAN	337,999	327,550	337,999	337,999	305,290	337,545	163,548	163,548	337,999	327,096	345,001	176,014	206,137	327,096	4,030,822
Total Exports															
4 Federal Entities	337,999	327,550	337,999	337,999	305,290	337,545	163,548	163,548	337,999	327,096	345,001	176,014	206,137	327,096	4,030,822
5 Total Exports	337,999	327,550	337,999	337,999	305,290	337,545	163,548	163,548	337,999	327,096	345,001	176,014	206,137	327,096	4,030,822

Table 2.1.3
Bonneville Power Administration - Power Services Exports
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/9/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Canada															
Contracts															
1 BPA-P to BCHP Trty CEA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 BPA-P to BCHP NTSA Del	0	0	0	0	0	0	0	0	0	0	6022	9110	22632	0	37764
3 Total Exports to CAN	0	0	0	0	0	0	0	0	0	0	6022	9110	22632	0	37764
Inland Southwest															
Contracts															
4 BPA-P to Other Entities	8200	8025	8175	0	0	0	0	0	0	0	0	0	0	0	24400
5 Total Exports to ISW	8200	8025	8175	0	0	0	0	0	0	0	0	0	0	0	24400
Pacific Southwest															
Contracts															
6 BPA-P to Other Entities	57400	56175	57400	0	0	0	0	0	0	0	0	0	0	0	170975
7 Intertie Losses	1722	1685	1722	0	0	0	0	0	0	0	0	0	0	0	5129
8 Total Exports to PSW	59122	57860	59122	0	0	0	0	0	0	0	0	0	0	0	176104
Total Exports															
9 Federal Entities	67322	65885	67297	0	0	0	0	0	0	0	6022	9110	22632	0	238269
10 Total Exports	67322	65885	67297	0	0	0	0	0	0	0	6022	9110	22632	0	238269

Table 2.1.3
Bonneville Power Administration - Power Services Exports
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/9/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Canada															
Contracts															
1 BPA-P to BCHP Trty CEA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 BPA-P to BCHP NTSA Del	0	0	0	0	0	0	0	0	0	0	6,022	9,110	22,633	0	37,765
3 Total Exports to CAN	0	0	0	0	0	0	0	0	0	0	6,022	9,110	22,633	0	37,765
Total Exports															
4 Federal Entities	0	0	0	0	0	0	0	0	0	0	6,022	9,110	22,633	0	37,765
5 Total Exports	0	0	0	0	0	0	0	0	0	0	6,022	9,110	22,633	0	37,765

Table 2.2.1
Bonneville Power Administration - Power Services: Imports
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/9/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Canada															
Contracts															
1 BCHP to BPA-P Trty LCALgcyRtn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2 Total Imports From CAN	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total Imports															
3 Federal Entities	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
4 Total Imports	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Table 2.2.1
Bonneville Power Administration - Power Services: Imports
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/9/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Canada															
Contracts															
1 BCHP to BPA-P Trty	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2 Total Imports From CAN	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total Imports															
3 Federal Entities	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
4 Total Imports	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Table 2.2.2
Bonneville Power Administration - Power Services: Imports
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/9/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Canada															
Contracts															
1 BCHP to BPA-P Trty	416	400	416	400	384	432	208	208	400	416	400	208	224	400	4,912
2 Total Imports From CAN	416	400	416	400	384	432	208	208	400	416	400	208	224	400	4,912
Total Imports															
3 Federal Entities	416	400	416	400	384	432	208	208	400	416	400	208	224	400	4,912
4 Total Imports	416	400	416	400	384	432	208	208	400	416	400	208	224	400	4,912

Table 2.2.2
Bonneville Power Administration - Power Services: Imports
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/9/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Canada															
Contracts															
1 BCHP to BPA-P Trty LCALgcyRtn	416	400	416	400	384	432	208	192	416	416	400	208	224	400	4,912
2 Total Imports From CAN	416	400	416	400	384	432	208	192	416	416	400	208	224	400	4,912
Total Imports															
3 Federal Entities	416	400	416	400	384	432	208	192	416	416	400	208	224	400	4,912
4 Total Imports	416	400	416	400	384	432	208	192	416	416	400	208	224	400	4,912

Table 2.2.3
Bonneville Power Administration - Power Services: Imports
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/9/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Canada															
Contracts															
1 BCHP to BPA-P Trty	328	321	328	344	288	311	152	152	344	304	344	152	160	320	3,848
2 Total Imports From CAN	328	321	328	344	288	311	152	152	344	304	344	152	160	320	3,848
Total Imports															
3 Federal Entities	328	321	328	344	288	311	152	152	344	304	344	152	160	320	3,848
4 Total Imports	328	321	328	344	288	311	152	152	344	304	344	152	160	320	3,848

Table 2.2.3
Bonneville Power Administration - Power Services: Imports
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/9/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Canada															
Contracts															
1 BCHP to BPA-P Trty	328	321	328	344	288	311	152	168	328	304	344	152	160	320	3,848
2 Total Imports From CAN	328	321	328	344	288	311	152	168	328	304	344	152	160	320	3,848
Total Imports															
3 Federal Entities	328	321	328	344	288	311	152	168	328	304	344	152	160	320	3,848
4 Total Imports	328	321	328	344	288	311	152	168	328	304	344	152	160	320	3,848

Table 2.3.1

Bonneville Power Administration - Power Services: Intra-Regional Transfers
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/2/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Intra-Regional Transfers															
Contracts	9.44	52.2	152	127	88.4	49.0	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	44.5
1 BPA-P to BPA-T Ops IntrlAgmt	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44
2 BPA-P to PSE Ops UBkr Repl	0	3.89	3.92	3.77	4.01	0	0	0	0	0	0	0	0	0	1.28
3 Other Entities to BPA-P	0	38.9	139	113	75.0	39.5	0	0	0	0	0	0	0	0	33.7
4 Total Intra-Regional Transfers	9.44	52.2	152	127	88.4	49.0	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	44.5
Intra-Regional Contracts Out															
5 Federal Entities	9.44	13.3	13.4	13.2	13.4	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	10.7
6 Marketer		38.9	139	113	75.0	39.5									33.7
7 Total Regional Contracts Out	9.44	52.2	152	127	88.4	49.0	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	44.5
Intra-Regional Contracts In															
8 Federal Entities	9.44	48.3	148	123	84.4	49.0	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	43.2
9 Investor Owned Utilities	0	3.89	3.92	3.77	4.01	0	0	0	0	0	0	0	0	0	1.28
10 Total Regional Contracts In	9.44	52.2	152	127	88.4	49.0	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	44.5

Table 2.3.1

Bonneville Power Administration - Power Services: Intra-Regional Transfers
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/2/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Intra-Regional Transfers															
Contracts	9.44	52.2	152	127	88.4	49.0	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	44.5
1 BPA-P to BPA-T Ops IntrlAgmt	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44
2 BPA-P to PSE Ops UBkr Repl	0	3.89	3.92	3.77	4.01	0	0	0	0	0	0	0	0	0	1.28
3 Other Entities to BPA-P	0	38.9	139	113	75.0	39.5	0	0	0	0	0	0	0	0	33.7
4 Total Intra-Regional Transfers	9.44	52.2	152	127	88.4	49.0	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	44.5
Intra-Regional Contracts Out															
5 Federal Entities	9.44	13.3	13.4	13.2	13.4	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	10.7
6 Marketer		38.9	139	113	75.0	39.5									33.7
7 Total Regional Contracts Out	9.44	52.2	152	127	88.4	49.0	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	44.5
Intra-Regional Contracts In															
8 Federal Entities	9.44	48.3	148	123	84.4	49.0	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	43.2
9 Investor Owned Utilities	0	3.89	3.92	3.77	4.01	0	0	0	0	0	0	0	0	0	1.28
10 Total Regional Contracts In	9.44	52.2	152	127	88.4	49.0	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	44.5

Table 2.3.2

Bonneville Power Administration - Power Services: Intra-Regional Transfers
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/2/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Intra-Regional Transfers															
Contracts	3,926	26,575	69,238	56,575	35,112	25,677	1,963	1,963	3,775	3,926	3,775	1,963	2,114	3,775	240,355
1 BPA-P to BPA-T Ops IntrlAgmt	3,926	3,775	3,926	3,775	3,624	4,077	1,963	1,963	3,775	3,926	3,775	1,963	2,114	3,775	46,355
2 BPA-P to PSE Ops UBkr Repl	-	2,800	2,912	2,800	2,688	-	-	-	-	-	-	-	-	-	11,200
3 Other Entities to BPA-P	-	20,000	62,400	50,000	28,800	21,600	-	-	-	-	-	-	-	-	182,800
4 Total Intra-Regional Transfers	3,926	26,575	69,238	56,575	35,112	25,677	1,963	1,963	3,775	3,926	3,775	1,963	2,114	3,775	240,355
Intra-Regional Contracts Out															
5 Federal Entities	3,926	6,575	6,838	6,575	6,312	4,077	1,963	1,963	3,775	3,926	3,775	1,963	2,114	3,775	57,555
6 Marketer	-	20,000	62,400	50,000	28,800	21,600	-	-	-	-	-	-	-	-	182,800
7 Total Regional Contracts Out	3,926	26,575	69,238	56,575	35,112	25,677	1,963	1,963	3,775	3,926	3,775	1,963	2,114	3,775	240,355
Intra-Regional Contracts In															
8 Federal Entities	3,926	23,775	66,326	53,775	32,424	25,677	1,963	1,963	3,775	3,926	3,775	1,963	2,114	3,775	229,155
9 Investor Owned Utilities	-	2,800	2,912	2,800	2,688	-	-	-	-	-	-	-	-	-	11,200
10 Total Regional Contracts In	3,926	26,575	69,238	56,575	35,112	25,677	1,963	1,963	3,775	3,926	3,775	1,963	2,114	3,775	240,355

Table 2.3.2

Bonneville Power Administration - Power Services: Intra-Regional Transfers
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/2/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Intra-Regional Transfers															
Contracts	3,926	26,575	69,238	56,575	35,112	25,677	1,963	1,812	3,926	3,926	3,775	1,963	2,114	3,775	240,355
1 BPA-P to BPA-T Ops IntrlAgmt	3,926	3,775	3,926	3,775	3,624	4,077	1,963	1,812	3,926	3,926	3,775	1,963	2,114	3,775	46,355
2 BPA-P to PSE Ops UBkr Repl	-	2,800	2,912	2,800	2,688	-	-	-	-	-	-	-	-	-	11,200
3 Other Entities to BPA-P	-	20,000	62,400	50,000	28,800	21,600	-	-	-	-	-	-	-	-	182,800
4 Total Intra-Regional Transfers	3,926	26,575	69,238	56,575	35,112	25,677	1,963	1,812	3,926	3,926	3,775	1,963	2,114	3,775	240,355
Intra-Regional Contracts Out															
5 Federal Entities	3,926	6,575	6,838	6,575	6,312	4,077	1,963	1,812	3,926	3,926	3,775	1,963	2,114	3,775	57,555
6 Marketer	-	20,000	62,400	50,000	28,800	21,600	-	-	-	-	-	-	-	-	182,800
7 Total Regional Contracts Out	3,926	26,575	69,238	56,575	35,112	25,677	1,963	1,812	3,926	3,926	3,775	1,963	2,114	3,775	240,355
Intra-Regional Contracts In															
8 Federal Entities	3,926	23,775	66,326	53,775	32,424	25,677	1,963	1,812	3,926	3,926	3,775	1,963	2,114	3,775	229,155
9 Investor Owned Utilities	-	2,800	2,912	2,800	2,688	-	-	-	-	-	-	-	-	-	11,200
10 Total Regional Contracts In	3,926	26,575	69,238	56,575	35,112	25,677	1,963	1,812	3,926	3,926	3,775	1,963	2,114	3,775	240,355

Table 2.3.3

Bonneville Power Administration - Power Services: Intra-Regional Transfers
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/2/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Intra-Regional Transfers															
Contracts	3,095	11,061	44,102	37,653	24,325	10,710	1,434	1,434	3,246	2,869	3,246	1,434	1,510	3,020	149,141
1 BPA-P to BPA-T Ops IntrlAgmt	3,095	3,029	3,095	3,246	2,718	2,935	1,434	1,434	3,246	2,869	3,246	1,434	1,510	3,020	36,314
2 BPA-P to PSE Ops UBkr Repl	-	7	7	7	7	-	-	-	-	-	-	-	-	-	28
3 Other Entities to BPA-P	-	8,025	41,000	34,400	21,600	7,775	-	-	-	-	-	-	-	-	112,800
4 Total Intra-Regional Transfers	3,095	11,061	44,102	37,653	24,325	10,710	1,434	1,434	3,246	2,869	3,246	1,434	1,510	3,020	149,141
Intra-Regional Contracts Out															
5 Federal Entities	3,095	3,036	3,102	3,253	2,725	2,935	1,434	1,434	3,246	2,869	3,246	1,434	1,510	3,020	36,341
6 Marketer	-	8,025	41,000	34,400	21,600	7,775	-	-	-	-	-	-	-	-	112,800
7 Total Regional Contracts Out	3,095	11,061	44,102	37,653	24,325	10,710	1,434	1,434	3,246	2,869	3,246	1,434	1,510	3,020	149,141
Intra-Regional Contracts In															
8 Federal Entities	3,095	11,054	44,095	37,646	24,318	10,710	1,434	1,434	3,246	2,869	3,246	1,434	1,510	3,020	149,114
9 Investor Owned Utilities	-	7	7	7	7	-	-	-	-	-	-	-	-	-	28
10 Total Regional Contracts In	3,095	11,061	44,102	37,653	24,325	10,710	1,434	1,434	3,246	2,869	3,246	1,434	1,510	3,020	149,141

Table 2.3.3

Bonneville Power Administration - Power Services: Intra-Regional Transfers
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/2/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Intra-Regional Transfers															
Contracts	3,095	11,061	44,102	37,653	24,325	10,710	1,434	1,585	3,095	2,869	3,246	1,434	1,510	3,020	149,141
1 BPA-P to BPA-T Ops IntrlAgmt	3,095	3,029	3,095	3,246	2,718	2,935	1,434	1,585	3,095	2,869	3,246	1,434	1,510	3,020	36,314
2 BPA-P to PSE Ops UBkr Repl	-	7	7	7	7	-	-	-	-	-	-	-	-	-	28
3 Other Entities to BPA-P	-	8,025	41,000	34,400	21,600	7,775	-	-	-	-	-	-	-	-	112,800
4 Total Intra-Regional Transfers	3,095	11,061	44,102	37,653	24,325	10,710	1,434	1,585	3,095	2,869	3,246	1,434	1,510	3,020	149,141
Intra-Regional Contracts Out															
5 Federal Entities	3,095	3,036	3,102	3,253	2,725	2,935	1,434	1,585	3,095	2,869	3,246	1,434	1,510	3,020	36,341
6 Marketer	-	8,025	41,000	34,400	21,600	7,775	-	-	-	-	-	-	-	-	112,800
7 Total Regional Contracts Out	3,095	11,061	44,102	37,653	24,325	10,710	1,434	1,585	3,095	2,869	3,246	1,434	1,510	3,020	149,141
Intra-Regional Contracts In															
8 Federal Entities	3,095	11,054	44,095	37,646	24,318	10,710	1,434	1,585	3,095	2,869	3,246	1,434	1,510	3,020	149,114
9 Investor Owned Utilities	-	7	7	7	7	-	-	-	-	-	-	-	-	-	28
10 Total Regional Contracts In	3,095	11,061	44,102	37,653	24,325	10,710	1,434	1,585	3,095	2,869	3,246	1,434	1,510	3,020	149,141

Table 2.4.1
Non-Federal CER Deliveries to BPA
Fiscal Year: 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Pacific Northwest															
1 CHPD to BPA CEAEA for Rock Island	17.3	18.1	18.2	17.1	17.7	17.4	17.3	17.3	16.6	17.3	16.6	17.3	17.5	17.6	17.4
2 CHPD to BPA CEAEA for Rocky Reach	35.8	36.8	37.1	35.8	36.6	37.8	37.6	37.6	36.3	37.6	36.3	37.6	37.9	37.4	36.9
3 DOPD to BPA CEAEA for Wells	22.9	23.6	23.8	23.0	23.4	23.8	23.1	23.1	22.4	23.1	22.4	23.1	23.3	23.1	23.2
4 GCPD to BPA CEAEA for Priest Rapids	28.0	29.1	28.8	27.8	28.6	29.7	29.5	29.5	28.3	29.5	28.3	29.5	29.8	29.7	28.9
5 GCPD to BPA CEAEA for Wanapum	26.8	27.5	28.3	27.3	28.0	28.5	28.3	28.3	27.3	28.3	27.3	28.3	28.6	28.1	27.8
6 Total Imports From PNW	131	135	136	131	134	137	136	136	131	136	131	136	137	136	134

Table 2.4.1
Non-Federal CER Deliveries to BPA
Fiscal Year: 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Pacific Northwest															
1 CHPD to BPA CEAEA for Rock Island	16.8	17.5	17.2	16.6	17.1	17.4	17.3	16.0	17.2	17.3	16.6	17.3	17.5	17.6	17.1
2 CHPD to BPA CEAEA for Rocky Reach	36.3	37.4	37.7	36.3	37.1	37.8	37.6	34.7	37.7	37.6	36.3	37.6	37.9	37.4	37.1
3 DOPD to BPA CEAEA for Wells	22.4	23.1	23.2	22.4	22.9	23.3	23.1	21.3	23.2	23.1	22.4	23.1	23.3	23.1	22.9
4 GCPD to BPA CEAEA for Priest Rapids	28.5	29.6	29.4	28.3	29.1	29.7	29.5	27.2	29.4	29.5	28.3	29.5	29.8	29.7	29.1
5 GCPD to BPA CEAEA for Wanapum	27.4	28.1	28.3	27.3	28.0	28.5	28.3	26.1	28.3	28.3	27.3	28.3	28.6	28.1	27.9
6 Total Imports From PNW	131	136	136	131	134	137	136	125	136	136	131	136	137	136	134
Total Imports															
7 Federal Entities	262	271	272	262	269	274	272	261	267	272	262	272	274	272	268
8 Total Imports	262	271	272	262	269	274	272	261	267	272	262	272	274	272	268

Table 2.4.2
Non-Federal CER Deliveries to BPA
Fiscal Year: 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Pacific Northwest															
1	12,896	12,400	12,896	12,400	11,904	12,960	6,240	6,240	12,000	12,480	12,000	6,240	6,720	12,000	149,376
2	26,624	25,600	26,624	25,600	24,576	28,080	13,520	13,520	26,000	27,040	26,000	13,520	14,560	26,000	317,264
3	17,056	16,400	17,056	16,400	15,744	17,712	8,320	8,320	16,000	16,640	16,000	8,320	8,960	16,000	198,928
4	20,800	20,000	20,800	20,000	19,200	22,032	10,608	10,608	20,400	21,216	20,400	10,608	11,424	20,400	248,496
5	19,968	19,200	20,384	19,600	18,816	21,168	10,192	10,192	19,600	20,384	19,600	10,192	10,976	19,600	239,872
6 Total Imports From PNW	97,344	93,600	97,760	94,000	90,240	101,952	48,880	48,880	94,000	97,760	94,000	48,880	52,640	94,000	1,153,936

Table 2.4.2
Non-Federal CER Deliveries to BPA
Fiscal Year: 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Pacific Northwest															
1 CHPD to BPA CEAEA for Rock Island	12,480	12,000	12,480	12,000	11,520	12,960	6,240	5,760	12,480	12,480	12,000	6,240	6,720	12,000	147,360
2 CHPD to BPA CEAEA for Rocky Reach	27,040	26,000	27,040	26,000	24,960	28,080	13,520	12,480	27,040	27,040	26,000	13,520	14,560	26,000	319,280
3 DOPD to BPA CEAEA for Wells	16,640	16,000	16,640	16,000	15,360	17,280	8,320	7,680	16,640	16,640	16,000	8,320	8,960	16,000	196,480
4 GCPD to BPA CEAEA for Priest Rapids	21,216	20,400	21,216	20,400	19,584	22,032	10,608	9,792	21,216	21,216	20,400	10,608	11,424	20,400	250,512
5 GCPD to BPA CEAEA for Wanapum	20,384	19,600	20,384	19,600	18,816	21,168	10,192	9,408	20,384	20,384	19,600	10,192	10,976	19,600	240,688
6 Total Imports From PNW	97,760	94,000	97,760	94,000	90,240	101,520	48,880	45,120	97,760	97,760	94,000	48,880	52,640	94,000	1,154,320
Total Imports															
7 Federal Entities	195,104	187,600	195,520	188,000	180,480	203,472	97,760	94,000	191,760	195,520	188,000	97,760	105,280	188,000	2,308,256
8 Total Imports	195,104	187,600	195,520	188,000	180,480	203,472	97,760	94,000	191,760	195,520	188,000	97,760	105,280	188,000	2,308,256

Table 2.4.3
Non-Federal CER Deliveries to BPA
Fiscal Year: 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Pacific Northwest															
1 CHPD to BPA CEAEA for Rock Island	-	642	656	344	-	-	-	-	344	-	344	-	-	640	2,970
2 CHPD to BPA CEAEA for Rocky Reach	-	963	984	1,032	-	-	-	-	1,032	-	1,032	-	-	960	6,003
3 DOPD to BPA CEAEA for Wells	-	642	656	688	-	-	-	-	688	-	688	-	-	640	4,002
4 GCPD to BPA CEAEA for Priest Rapids	-	963	656	688	-	-	-	-	688	-	688	-	-	960	4,643
5 GCPD to BPA CEAEA for Wanapum	-	642	656	688	-	-	-	-	688	-	688	-	-	640	4,002
6 Total Imports From PNW	-	3,852	3,608	3,440	-	-	-	-	3,440	-	3,440	-	-	3,840	21,620

Table 2.4.3
Non-Federal CER Deliveries to BPA
Fiscal Year: 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021

S215-RC-20210504-203021															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Pacific Northwest															
1 CHPD to BPA CEAEA for Rock Island	-	642	328	344	-	-	-	-	328	-	344	-	-	640	2,626
2 CHPD to BPA CEAEA for Rocky Reach	-	963	984	1,032	-	-	-	-	984	-	1,032	-	-	960	5,955
3 DOPD to BPA CEAEA for Wells	-	642	656	688	-	-	-	-	656	-	688	-	-	640	3,970
4 GCPD to BPA CEAEA for Priest Rapids	-	963	656	688	-	-	-	-	656	-	688	-	-	960	4,611
5 GCPD to BPA CEAEA for Wanapum	-	642	656	688	-	-	-	-	656	-	688	-	-	640	3,970
6 Total Imports From PNW	-	3,852	3,280	3,440	-	-	-	-	3,280	-	3,440	-	-	3,840	21,132
Total Imports															
7 Federal Entities	-	7,704	6,888	6,880	-	-	-	-	6,720	-	6,880	-	-	7,680	42,752
8 Total Imports	-	7,704	6,888	6,880	-	-	-	-	6,720	-	6,880	-	-	7,680	42,752

3. HYDRO RESOURCE FORECASTS FOR FY 2022 AND FY 202343

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Table 3.1.1
Bonneville Power Administration - Power Services: Regulated Hydro
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Regulated Hydro															
1 Albeni Falls	35	17	16	14	12	15	17	20	30	31	34	21	16	24	22
2 Bonneville	402	533	534	447	439	450	278	136	244	360	190	154	268	438	371
3 Chief Joseph	932	1,278	1,239	951	840	858	860	837	1,378	1,515	1,257	1,320	1,167	960	1,110
4 Dworshak	61	61	61	61	60	60	61	62	67	170	445	443	343	180	141
5 Grand Coulee	1,632	2,247	2,133	1,632	1,468	1,487	1,448	1,391	2,356	2,678	2,233	2,325	2,032	1,670	1,930
6 Hungry Horse	79	84	84	86	85	83	63	51	53	55	63	63	70	84	73
7 Ice Harbor	86	108	115	117	126	173	68	67	66	66	150	107	68	109	106
8 John Day	648	913	888	719	697	777	479	387	401	705	687	651	704	709	688
9 Libby	92	178	172	117	85	85	84	84	445	191	172	174	174	173	165
10 Little Goose	91	110	113	119	111	168	82	80	80	80	149	111	85	112	109
11 Lower Granite	95	107	112	117	110	164	83	81	81	81	91	81	86	115	103
12 Lower Monumental	91	110	117	120	130	178	85	84	84	84	99	85	85	111	108
13 McNary	441	590	572	467	453	479	265	268	263	263	298	300	480	491	414
14 The Dalles	520	717	713	586	574	608	546	440	673	705	496	469	469	575	594
Total Regulated Hydro															
15 Federal Entities	5,205	7,052	6,868	5,553	5,190	5,584	4,421	3,987	6,222	6,984	6,364	6,304	6,046	5,750	5,934
16 Total Regulated Hydro	5,205	7,052	6,868	5,553	5,190	5,584	4,421	3,987	6,222	6,984	6,364	6,304	6,046	5,750	5,934

Table 3.1.1
Bonneville Power Administration - Power Services: Regulated Hydro
Fiscal Year 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Regulated Hydro															
1 Albeni Falls	35	17	16	14	12	15	17	20	33	45	34	21	16	24	24
2 Bonneville	402	533	534	455	439	431	278	136	237	360	190	154	268	438	369
3 Chief Joseph	932	1,278	1,239	975	840	858	860	837	1,355	1,515	1,257	1,320	1,167	960	1,110
4 Dworshak	61	61	61	61	60	60	61	62	67	170	445	443	343	180	141
5 Grand Coulee	1,632	2,247	2,133	1,670	1,463	1,481	1,442	1,385	2,311	2,678	2,233	2,325	2,032	1,670	1,928
6 Hungry Horse	79	84	84	86	85	83	63	51	53	55	63	63	70	84	73
7 Ice Harbor	87	109	116	118	127	175	69	67	66	67	151	108	69	110	107
8 John Day	648	913	888	733	697	777	479	387	386	698	687	651	704	709	687
9 Libby	92	178	172	117	85	85	84	84	445	191	172	174	174	173	165
10 Little Goose	91	110	113	119	111	168	82	80	80	80	149	111	85	112	109
11 Lower Granite	95	107	112	117	110	164	83	81	81	81	91	81	86	115	103
12 Lower Monumental	91	110	117	120	130	178	85	84	84	84	99	85	85	111	108
13 McNary	441	590	572	476	453	479	265	268	263	263	298	300	480	491	415
14 The Dalles	520	717	713	597	574	608	541	440	667	705	496	469	469	575	594
Total Regulated Hydro															
15 Federal Entities	5,206	7,053	6,869	5,657	5,186	5,562	4,410	3,982	6,129	6,992	6,366	6,305	6,047	5,751	5,934
16 Total Regulated Hydro	5,206	7,053	6,869	5,657	5,186	5,562	4,410	3,982	6,129	6,992	6,366	6,305	6,047	5,751	5,934

Table 3.1.2
Bonneville Power Administration - Power Services: Regulated Hydro
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Regulated Hydro															
1 Albeni Falls	14,890	6,633	6,243	6,094	4,698	6,188	3,469	4,043	12,861	12,896	13,995	4,364	3,541	9,366	109,281
2 Bonneville	171,143	205,189	206,441	190,364	168,632	190,397	63,853	24,278	89,955	146,525	78,141	30,846	55,712	170,609	1,792,085
3 Chief Joseph	505,348	642,992	610,657	480,269	375,152	444,287	203,016	196,184	802,606	888,876	736,312	375,282	338,922	508,631	7,108,533
4 Dworshak	26,061	24,063	23,610	25,722	23,202	25,643	12,498	12,677	28,662	69,969	181,215	91,269	75,182	70,874	690,647
5 Grand Coulee	884,381	1,130,219	1,051,426	824,228	655,644	769,985	342,005	325,957	1,372,290	1,571,698	1,307,416	661,009	589,965	884,449	12,370,672
6 Hungry Horse	33,605	33,083	32,881	36,516	32,788	35,416	13,091	10,574	22,507	22,725	25,860	13,063	15,416	33,313	360,839
7 Ice Harbor	40,377	46,751	60,739	64,848	63,095	85,949	15,696	15,525	35,294	29,733	62,757	22,355	15,357	46,956	605,433
8 John Day	319,697	411,703	393,820	355,701	306,938	377,285	115,595	89,407	186,271	326,754	335,315	156,817	175,241	332,072	3,882,615
9 Libby	38,966	70,087	66,905	49,602	32,826	35,977	17,351	17,280	189,018	78,740	69,986	35,932	38,264	68,275	809,210
10 Little Goose	42,540	47,625	59,522	65,823	55,893	83,288	18,852	18,491	42,819	35,682	62,234	23,229	19,208	48,417	623,622
11 Lower Granite	44,403	46,614	59,076	64,900	55,426	81,284	19,056	18,804	43,544	36,286	38,012	16,960	19,469	49,702	593,537
12 Lower Monumental	42,594	47,700	61,771	66,422	65,026	88,535	19,570	19,574	45,159	37,705	41,494	17,704	19,065	48,066	620,384
13 McNary	217,284	266,244	253,398	231,247	199,339	232,617	64,000	61,890	122,062	122,027	145,486	72,247	119,468	230,048	2,337,360
14 The Dalles	256,404	323,392	315,990	290,047	252,719	295,470	131,715	101,506	312,179	326,905	242,381	112,876	116,704	269,203	3,347,488
Total Regulated Hydro															
15 Federal Entities	2,637,694	3,302,297	3,202,479	2,751,781	2,291,379	2,752,321	1,039,769	916,190	3,305,226	3,706,520	3,340,604	1,633,953	1,601,513	2,769,982	35,251,708
16 Total Regulated Hydro	2,637,694	3,302,297	3,202,479	2,751,781	2,291,379	2,752,321	1,039,769	916,190	3,305,226	3,706,520	3,340,604	1,633,953	1,601,513	2,769,982	35,251,708

Table 3.1.2
Bonneville Power Administration - Power Services: Regulated Hydro
Fiscal Year 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Regulated Hydro															
1 Albeni Falls	14,890	6,633	6,527	5,840	4,698	6,188	3,475	4,043	14,215	18,611	13,995	4,364	3,544	9,366	116,390
2 Bonneville	170,986	206,465	216,078	185,304	168,632	182,044	66,458	25,656	88,380	144,607	78,665	31,142	54,613	170,445	1,789,475
3 Chief Joseph	508,524	643,646	633,862	475,502	376,959	443,679	204,575	198,852	783,389	880,739	736,113	374,582	338,276	509,651	7,108,349
4 Dworshak	26,061	24,063	24,685	24,650	23,202	25,643	12,520	12,677	28,662	69,969	181,215	91,269	75,234	70,874	690,724
5 Grand Coulee	889,940	1,131,367	1,091,381	814,956	656,289	765,888	343,134	328,937	1,335,889	1,557,311	1,307,062	659,776	588,842	886,223	12,356,994
6 Hungry Horse	33,605	33,083	34,378	34,995	32,788	35,416	13,114	10,574	22,507	22,725	25,860	13,063	15,427	33,313	360,848
7 Ice Harbor	40,782	47,237	63,036	63,865	63,758	87,080	15,829	15,675	35,561	29,980	63,353	22,556	15,492	47,359	611,564
8 John Day	321,459	421,930	414,342	351,881	307,317	378,357	118,353	88,723	177,438	326,902	334,578	156,368	175,519	331,858	3,905,025
9 Libby	38,966	70,087	69,951	47,535	32,826	35,977	17,382	17,280	189,019	78,740	69,986	35,932	38,291	68,275	810,247
10 Little Goose	42,540	47,625	61,135	64,156	55,893	83,477	18,852	18,491	42,846	35,682	62,234	23,229	19,208	48,417	623,786
11 Lower Granite	44,403	46,614	60,677	63,257	55,426	81,468	19,056	18,804	43,572	36,286	38,168	16,960	19,469	49,702	593,864
12 Lower Monumental	42,594	47,700	63,446	64,740	65,026	88,735	19,570	19,574	45,188	37,705	41,494	17,704	19,065	48,066	620,606
13 McNary	218,482	272,858	266,603	228,838	199,585	233,278	65,527	61,417	120,912	123,315	145,166	72,040	119,658	229,900	2,357,580
14 The Dalles	257,817	331,425	332,456	286,699	253,031	296,309	133,429	100,730	306,283	330,355	241,847	112,553	116,889	269,030	3,368,854
Total Regulated Hydro															
15 Federal Entities	2,651,051	3,330,735	3,338,558	2,712,217	2,295,432	2,743,539	1,051,274	921,432	3,233,863	3,692,928	3,339,736	1,631,537	1,599,525	2,772,480	35,314,306
16 Total Regulated Hydro	2,651,051	3,330,735	3,338,558	2,712,217	2,295,432	2,743,539	1,051,274	921,432	3,233,863	3,692,928	3,339,736	1,631,537	1,599,525	2,772,480	35,314,306

Table 3.1.3

Bonneville Power Administration - Power Services: Regulated Hydro
 Fiscal Year 2022 Water Year: 1937
 BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Regulated Hydro															
1 Albeni Falls	11,168	5,480	5,691	4,570	3,510	4,624	2,581	3,032	9,662	9,672	11,546	3,264	2,656	7,737	85,192
2 Bonneville	128,083	179,339	190,690	142,474	126,206	143,875	36,192	24,523	91,610	112,692	63,333	24,677	47,180	144,779	1,455,653
3 Chief Joseph	188,266	278,745	311,206	227,364	189,429	193,236	106,520	105,263	222,710	201,633	199,202	99,826	109,244	182,679	2,615,322
4 Dworshak	19,546	19,878	21,523	19,291	17,335	19,159	9,297	9,508	21,532	52,477	149,504	68,265	56,387	58,548	542,249
5 Grand Coulee	329,474	489,964	535,833	390,197	331,060	334,895	179,445	174,894	380,787	356,524	353,709	175,830	190,162	317,657	4,540,430
6 Hungry Horse	25,204	27,330	29,975	27,387	24,497	26,461	9,739	7,931	16,908	17,044	21,334	9,770	11,562	27,519	282,661
7 Ice Harbor	23,859	30,770	24,705	22,318	21,398	42,710	8,949	8,542	13,535	18,038	48,857	16,068	10,804	31,234	321,787
8 John Day	162,686	246,294	267,079	178,938	161,290	199,710	57,007	49,969	112,438	180,517	175,497	77,673	94,951	178,207	2,142,257
9 Libby	29,225	57,898	60,992	37,201	24,526	26,880	12,908	12,960	141,999	59,055	57,739	26,876	28,698	56,401	633,357
10 Little Goose	25,137	31,345	24,210	22,654	18,955	41,388	10,748	10,174	16,421	21,647	48,450	16,696	13,513	32,206	333,544
11 Lower Granite	26,238	30,679	24,028	22,336	18,797	40,392	10,864	10,346	16,699	22,013	29,593	12,190	13,696	33,061	310,934
12 Lower Monumental	25,169	31,394	25,125	22,860	22,053	43,995	11,157	10,770	17,318	22,874	32,304	12,725	13,412	31,973	323,128
13 McNary	110,571	159,276	171,849	116,330	104,749	123,132	31,563	34,590	73,680	67,415	76,144	35,785	64,731	123,456	1,293,271
14 The Dalles	130,478	193,464	214,297	145,910	132,799	156,402	64,957	56,731	188,440	180,600	126,857	55,909	63,233	144,469	1,854,546
Total Regulated Hydro															
15 Federal Entities	1,235,104	1,781,855	1,907,203	1,379,832	1,196,605	1,396,857	551,927	519,233	1,323,739	1,322,200	1,394,071	635,552	720,229	1,369,926	16,734,330
16 Total Regulated Hydro	1,235,104	1,781,855	1,907,203	1,379,832	1,196,605	1,396,857	551,927	519,233	1,323,739	1,322,200	1,394,071	635,552	720,229	1,369,926	16,734,330

Table 3.1.3
Bonneville Power Administration - Power Services: Regulated Hydro
Fiscal Year 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Regulated Hydro															
1 Albeni Falls	11,168	5,480	5,407	4,824	3,510	4,624	2,575	3,032	10,679	13,959	11,546	3,264	2,653	7,737	90,457
2 Bonneville	128,240	178,062	181,054	153,077	126,206	138,336	33,588	23,146	88,018	114,609	62,810	24,381	48,279	144,943	1,444,749
3 Chief Joseph	185,090	278,092	288,000	249,562	187,622	193,845	104,961	102,595	224,990	209,769	199,402	100,526	109,889	181,659	2,616,001
4 Dworshak	19,546	19,878	20,449	20,363	17,335	19,159	9,275	9,508	21,532	52,477	149,504	68,265	56,335	58,548	542,172
5 Grand Coulee	323,915	488,816	495,877	427,721	326,651	334,619	176,051	169,711	383,668	370,911	354,063	177,063	191,285	315,883	4,536,235
6 Hungry Horse	25,204	27,330	28,478	28,909	24,497	26,461	9,716	7,931	16,908	17,044	21,334	9,770	11,551	27,519	282,652
7 Ice Harbor	24,099	31,089	23,298	24,210	21,623	42,978	9,024	8,624	13,606	18,188	49,322	16,212	10,899	31,502	324,674
8 John Day	160,924	236,067	246,557	193,119	160,911	198,637	54,250	50,653	109,969	175,298	176,235	78,123	94,672	178,421	2,113,836
9 Libby	29,225	57,898	57,946	39,268	24,526	26,880	12,877	12,960	141,998	59,055	57,739	26,876	28,672	56,401	632,320
10 Little Goose	25,137	31,345	22,596	24,320	18,955	41,199	10,748	10,174	16,393	21,647	48,450	16,696	13,513	32,206	333,380
11 Lower Granite	26,238	30,679	22,426	23,979	18,797	40,208	10,864	10,346	16,671	22,013	29,715	12,190	13,696	33,061	310,885
12 Lower Monumental	25,169	31,394	23,450	24,542	22,053	43,795	11,157	10,770	17,289	22,874	32,304	12,725	13,412	31,973	322,905
13 McNary	109,373	152,662	158,644	125,591	104,503	122,471	30,036	35,064	74,937	66,127	76,464	35,992	64,542	123,604	1,280,008
14 The Dalles	129,064	185,430	197,830	157,346	132,487	155,562	61,160	57,508	189,822	177,150	127,390	56,232	63,048	144,642	1,834,673
Total Regulated Hydro															
15 Federal Entities	1,222,391	1,754,222	1,772,014	1,496,831	1,189,677	1,388,773	536,283	512,020	1,326,480	1,341,119	1,396,278	638,313	722,446	1,368,100	16,664,947
16 Total Regulated Hydro	1,222,391	1,754,222	1,772,014	1,496,831	1,189,677	1,388,773	536,283	512,020	1,326,480	1,341,119	1,396,278	638,313	722,446	1,368,100	16,664,947

Table 3.1.4
Bonneville Power Administration - Power Services: Regulated Hydro
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1Hr-MW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep
Regulated Hydro														
1 Albeni Falls	37	21	20	23	23	23	25	30	30	31	43	44	44	50
2 Bonneville	938	999	968	949	932	978	896	896	759	924	921	947	947	1,052
3 Chief Joseph	2,290	2,100	2,151	2,146	2,191	2,067	2,394	2,394	2,455	2,465	2,513	2,424	2,424	2,095
4 Dworshak	139	297	429	314	425	435	440	445	447	449	449	448	447	418
5 Grand Coulee	5,417	5,683	5,471	5,543	5,777	6,006	5,656	5,542	5,577	5,756	6,117	5,722	5,654	5,365
6 Hungry Horse	232	232	232	232	231	155	142	142	155	159	164	155	155	155
7 Ice Harbor	568	497	495	589	589	515	582	569	527	532	494	471	463	546
8 John Day	1,759	1,983	2,250	2,309	2,150	2,192	2,273	2,273	2,293	2,310	2,293	2,192	2,192	1,997
9 Libby	564	588	583	472	471	459	569	569	573	582	519	404	404	498
10 Little Goose	467	585	548	932	867	909	822	796	789	789	836	824	761	787
11 Lower Granite	841	834	847	819	896	929	828	807	818	807	827	609	650	773
12 Lower Monumental	694	687	690	773	773	756	703	695	687	688	571	486	486	451
13 McNary	967	966	1,048	1,122	1,127	1,117	1,104	1,104	1,115	1,087	1,090	1,084	1,084	1,016
14 The Dalles	1,894	1,949	1,923	1,922	1,835	1,925	1,743	1,743	1,712	1,660	1,719	1,790	1,790	1,974
Total Regulated Hydro														
15 Federal Entities	16,810	17,421	17,656	18,145	18,289	18,466	18,179	18,005	17,936	18,237	18,557	17,600	17,501	17,178
16 Total Regulated Hydro	16,810	17,421	17,656	18,145	18,289	18,466	18,179	18,005	17,936	18,237	18,557	17,600	17,501	17,178

Table 3.1.4
Bonneville Power Administration - Power Services: Regulated Hydro
Fiscal Year 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1Hr-MW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep
Regulated Hydro														
1 Albeni Falls	37	20	20	23	23	23	25	30	35	46	46	38	38	38
2 Bonneville	969	891	920	889	850	818	781	781	753	778	993	943	943	1,027
3 Chief Joseph	2,511	2,516	2,519	2,531	2,505	2,446	2,376	2,376	2,449	2,467	2,494	2,443	2,443	2,358
4 Dworshak	275	345	439	439	436	435	440	445	447	449	449	448	447	411
5 Grand Coulee	5,417	5,680	5,471	5,528	5,759	5,824	5,776	5,658	5,546	5,734	6,141	5,876	5,806	5,459
6 Hungry Horse	170	310	310	310	309	186	137	137	180	203	144	170	170	232
7 Ice Harbor	473	505	561	618	682	600	652	637	625	632	521	566	562	651
8 John Day	2,179	2,170	2,142	2,387	2,258	2,280	2,376	2,376	2,395	2,413	2,395	2,308	2,308	2,033
9 Libby	590	588	583	495	471	469	546	546	573	582	507	416	416	498
10 Little Goose	804	795	828	932	928	905	822	796	789	789	834	764	706	823
11 Lower Granite	839	844	838	826	911	921	828	807	818	807	807	687	733	796
12 Lower Monumental	602	710	765	773	845	911	846	835	827	828	810	729	729	770
13 McNary	1,126	1,126	1,113	1,124	1,126	1,117	1,104	1,104	1,115	1,101	1,096	1,082	1,082	770
14 The Dalles	1,995	1,964	2,009	2,011	1,856	1,833	1,737	1,737	1,750	1,866	1,874	1,936	1,936	1,837
Total Regulated Hydro														
15 Federal Entities	17,987	18,463	18,520	18,886	18,957	18,767	18,447	18,267	18,301	18,693	19,111	18,407	18,318	17,702
16 Total Regulated Hydro	17,987	18,463	18,520	18,886	18,957	18,767	18,447	18,267	18,301	18,693	19,111	18,407	18,318	17,702

Table 3.2.1
Bonneville Power Administration - Power Services: Independent Hydro
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Independent Hydro															
1 Anderson Ranch	4.19	4.36	4.27	4.31	4.76	4.31	9.41	9.41	11.8	37.0	33.2	20.1	20.1	8.78	12.2
2 Big Cliff	10.8	13.0	6.45	3.86	5.84	5.84	8.70	14.5	19.9	19.6	7.07	5.84	5.84	11.0	9.99
3 Black Canyon	5.45	3.61	2.98	3.27	3.53	4.19	8.53	8.53	8.53	8.53	8.53	8.53	8.53	8.31	6.18
4 Boise River Diversion	0.73	0	0	0	0	0	0.87	0.87	2.50	2.50	2.50	2.46	2.46	2.50	1.18
5 Chandler	5.70	7.34	3.38	5.51	7.47	9.80	6.06	6.06	5.97	5.80	6.09	4.60	4.60	5.59	6.10
6 Cougar	26.7	23.3	8.71	6.40	6.19	13.0	29.0	29.0	29.0	29.0	16.7	25.3	23.4	16.2	19.1
7 Cowlitz Falls	6.20	3.10	23.1	10.00	13.7	33.3	46.1	50.3	63.6	66.3	28.9	13.3	10.5	9.50	26.5
8 Detroit	42.8	45.6	19.7	11.4	18.1	20.1	34.9	64.3	106	90.7	30.3	24.7	24.5	42.3	41.8
9 Dexter	12.4	15.7	3.80	3.37	4.72	4.72	11.7	12.3	16.5	16.6	5.95	4.72	4.88	11.4	9.32
10 Foster	6.49	7.56	13.0	4.15	9.19	20.8	22.5	23.0	23.0	23.0	6.17	5.61	5.14	6.77	12.4
11 Green Peter	19.3	19.3	30.3	7.73	0.37	32.9	88.5	44.8	57.9	48.8	9.57	4.54	14.9	22.1	27.2
12 Green Springs	5.02	5.95	6.34	6.94	6.74	7.97	8.26	8.26	8.78	8.98	8.01	7.94	7.94	6.90	7.32
13 Hills Creek	22.8	26.9	4.86	3.84	4.59	5.19	27.7	31.3	35.0	35.0	13.9	7.89	7.16	26.3	17.9
14 Lookout Point	45.2	47.3	8.78	7.79	11.5	14.7	44.8	50.5	86.7	75.0	24.2	19.1	19.7	45.4	36.2
15 Lost Creek	37.0	19.0	18.8	18.5	13.0	13.6	14.6	15.7	56.4	56.4	46.4	44.3	39.2	23.8	30.1
16 Minidoka	6.48	2.39	2.32	2.32	2.57	2.32	10.3	10.3	24.6	22.7	21.7	19.0	19.0	11.5	10.7
17 Palisades	45.5	11.3	11.2	11.4	12.8	28.2	51.7	51.7	152	151	127	144	144	56.9	67.4
18 Roza	4.08	1.15	4.09	2.59	3.12	9.41	11.4	11.4	10.8	10.9	10.6	10.5	10.5	3.39	6.87
Total Independent Hydro															
19 Federal Entities	307	257	172	113	128	230	435	442	719	708	407	373	373	318	348
20 Total Independent Hydro	307	257	172	113	128	230	435	442	719	708	407	373	373	318	348

Table 3.2.1

Bonneville Power Administration - Power Services: Independent Hydro
 Fiscal Year 2023 Water Year: 1937
 BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
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A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Independent Hydro															
1 Anderson Ranch	4.19	4.36	4.27	4.31	4.76	4.31	9.41	9.41	11.8	37.0	33.2	20.1	20.1	8.78	12.2
2 Big Cliff	10.8	13.0	6.45	3.86	5.84	5.84	8.70	14.5	19.9	19.6	7.07	5.84	5.84	11.0	9.99
3 Black Canyon	5.45	3.61	2.98	3.27	3.53	4.19	8.53	8.53	8.53	8.53	8.53	8.53	8.53	8.31	6.18
4 Boise River Diversion	0.73	0	0	0	0	0	0.87	0.87	2.50	2.50	2.50	2.46	2.46	2.50	1.18
5 Chandler	5.70	7.34	3.38	5.51	7.47	9.80	6.06	6.06	5.97	5.80	6.09	4.60	4.60	5.59	6.10
6 Cougar	26.7	23.3	8.71	6.40	6.19	13.0	29.0	29.0	29.0	29.0	16.7	25.3	23.4	16.2	19.1
7 Cowlitz Falls	6.20	3.10	23.1	10.00	13.7	33.3	46.1	50.3	63.6	66.3	28.9	13.3	10.5	9.50	26.5
8 Detroit	42.8	45.6	19.7	11.4	18.1	20.1	34.9	64.3	106	90.7	30.3	24.7	24.5	42.3	41.8
9 Dexter	12.4	15.7	3.80	3.37	4.72	4.72	11.7	12.3	16.5	16.6	5.95	4.72	4.88	11.4	9.32
10 Foster	6.49	7.56	13.0	4.15	9.19	20.8	22.5	23.0	23.0	23.0	6.17	5.61	5.14	6.77	12.4
11 Green Peter	19.3	19.3	30.3	7.73	0.37	32.9	88.5	44.8	57.9	48.8	9.57	4.54	14.9	22.1	27.2
12 Green Springs	5.02	5.95	6.34	6.94	6.74	7.97	8.26	8.26	8.78	8.98	8.01	7.94	7.94	6.90	7.32
13 Hills Creek	22.8	26.9	4.86	3.84	4.59	5.19	27.7	31.3	35.0	35.0	13.9	7.89	7.16	26.3	17.9
14 Lookout Point	45.2	47.3	8.78	7.79	11.5	14.7	44.8	50.5	86.7	75.0	24.2	19.1	19.7	45.4	36.2
15 Lost Creek	37.0	19.0	18.8	18.5	13.0	13.6	14.6	15.7	56.4	56.4	46.4	44.3	39.2	23.8	30.1
16 Minidoka	6.48	2.39	2.32	2.32	2.57	2.32	10.3	10.3	24.6	22.7	21.7	19.0	19.0	11.5	10.7
17 Palisades	45.5	11.3	11.2	11.4	12.8	28.2	51.7	51.7	152	151	127	144	144	56.9	67.4
18 Roza	4.08	1.15	4.09	2.59	3.12	9.41	11.4	11.4	10.8	10.9	10.6	10.5	10.5	3.39	6.87
Total Independent Hydro															
19 Federal Entities	307	257	172	113	128	230	435	442	719	708	407	373	373	318	348
20 Total Independent Hydro	307	257	172	113	128	230	435	442	719	708	407	373	373	318	348

Table 3.2.2

Bonneville Power Administration - Power Services: Independent Hydro
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Independent Hydro															
1 Anderson Ranch	1,773	1,814	1,858	1,829	1,817	1,848	1,913	1,913	5,032	15,312	14,005	4,107	4,381	3,585	61,188
2 Big Cliff	4,511	5,190	2,681	1,546	2,243	2,523	1,810	3,023	7,978	8,137	2,827	1,215	1,308	4,018	49,010
3 Black Canyon	2,247	1,476	1,276	1,387	1,334	1,788	1,737	1,737	3,624	3,499	3,601	1,720	1,835	3,423	30,684
4 Boise River Diversion	295	-	-	-	-	-	-	180	1,073	1,033	1,060	505	539	1,032	5,718
5 Chandler	2,390	3,168	1,337	2,297	2,851	4,150	1,229	1,229	2,518	2,328	2,418	985	1,051	2,260	30,211
6 Cougar	11,091	9,302	3,625	2,561	2,378	5,602	6,032	6,032	11,600	12,064	6,663	5,270	5,232	6,485	93,936
7 Cowlitz Falls	2,625	1,213	9,421	4,112	5,217	14,115	9,398	10,254	26,188	27,333	11,502	2,693	2,267	3,979	130,316
8 Detroit	31,848	32,881	14,650	4,576	12,140	14,952	12,575	23,131	46,014	47,827	22,544	8,876	9,406	30,450	311,870
9 Dexter	5,148	6,288	1,581	1,348	1,814	2,040	2,441	2,563	6,601	6,918	2,382	982	1,094	4,541	45,741
10 Foster	2,700	3,025	5,425	1,661	3,530	9,003	4,689	4,784	9,200	9,568	2,466	1,167	1,151	2,710	61,078
11 Green Peter	8,045	7,735	22,568	3,091	143	24,457	19,344	16,111	37,200	35,117	3,829	944	3,342	8,830	190,756
12 Green Springs	2,613	4,036	4,588	4,776	4,108	5,115	2,311	2,311	4,521	4,529	3,998	1,958	2,088	3,161	50,111
13 Hills Creek	9,467	10,749	2,024	1,535	1,764	2,244	5,766	6,511	14,000	14,560	5,554	1,641	1,604	10,508	87,926
14 Lookout Point	33,644	34,103	3,650	3,116	4,418	6,361	16,120	18,196	55,200	53,994	18,021	3,981	4,410	32,708	287,921
15 Lost Creek	15,411	7,600	7,805	7,398	4,993	5,869	3,043	3,258	22,560	23,462	18,551	9,206	8,770	9,507	147,434
16 Minidoka	2,682	992	988	992	1,087	986	2,097	2,097	10,493	9,332	9,127	3,882	4,141	4,759	53,656
17 Palisades	19,262	4,630	4,699	4,896	4,909	12,059	10,567	10,567	65,062	61,993	53,674	29,820	31,808	23,344	337,290
18 Roza	1,679	-	1,647	1,090	1,200	3,998	2,359	2,359	4,546	4,523	4,314	2,206	2,353	-	32,273
Total Independent Hydro															
19 Federal Entities	157,432	134,202	89,824	48,212	55,944	117,108	103,429	116,256	333,409	341,531	186,536	81,158	86,780	155,298	2,007,120
20 Total Independent Hydro	157,432	134,202	89,824	48,212	55,944	117,108	103,429	116,256	333,409	341,531	186,536	81,158	86,780	155,298	2,007,120

Table 3.2.2

Bonneville Power Administration - Power Services: Independent Hydro
Fiscal Year 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
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A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Independent Hydro															
1 Anderson Ranch	1,773	1,814	1,858	1,829	1,817	1,848	1,913	1,913	5,032	15,312	14,005	4,107	4,381	3,585	61,188
2 Big Cliff	4,511	5,190	2,681	1,546	2,243	2,523	1,810	2,791	8,297	8,137	2,827	1,215	1,308	4,018	49,097
3 Black Canyon	2,247	1,476	1,276	1,387	1,334	1,788	1,737	1,737	3,624	3,499	3,601	1,720	1,835	3,423	30,684
4 Boise River Diversion	295	-	-	-	-	-	-	180	1,073	1,033	1,060	505	539	1,032	5,718
5 Chandler	2,390	3,168	1,337	2,297	2,851	4,150	1,229	1,229	2,518	2,328	2,418	985	1,051	2,260	30,211
6 Cougar	11,091	9,302	3,625	2,561	2,378	5,602	6,032	5,568	12,064	12,064	6,663	5,270	5,232	6,485	93,936
7 Cowlitz Falls	2,625	1,213	9,421	4,112	5,217	14,115	9,398	10,254	26,188	27,333	11,502	2,693	2,267	3,979	130,316
8 Detroit	31,848	32,881	14,650	4,576	12,140	14,952	12,575	22,090	47,827	47,827	22,544	8,876	9,406	30,450	312,642
9 Dexter	5,148	6,288	1,581	1,348	1,814	2,040	2,441	2,366	6,865	6,918	2,382	982	1,094	4,541	45,808
10 Foster	2,700	3,025	5,425	1,661	3,530	9,003	4,689	4,416	9,568	9,568	2,466	1,167	1,151	2,710	61,078
11 Green Peter	8,045	7,735	22,568	3,091	143	24,457	19,344	16,111	38,688	35,117	3,829	944	3,342	8,830	192,244
12 Green Springs	2,613	4,036	4,588	4,776	4,108	5,115	2,311	2,311	4,521	4,529	3,998	1,958	2,088	3,161	50,111
13 Hills Creek	9,467	10,749	2,024	1,535	1,764	2,244	5,766	6,011	14,560	14,560	5,554	1,641	1,604	10,508	87,985
14 Lookout Point	33,644	34,103	3,650	3,116	4,418	6,361	16,120	18,196	57,408	53,994	18,021	3,981	4,410	32,708	290,129
15 Lost Creek	15,411	7,600	7,805	7,398	4,993	5,869	3,043	3,008	23,462	23,462	18,551	9,206	8,770	9,507	148,085
16 Minidoka	2,682	992	988	992	1,087	986	2,097	2,097	10,493	9,332	9,127	3,882	4,141	4,759	53,656
17 Palisades	19,262	4,630	4,699	4,896	4,909	12,059	10,567	10,567	65,062	61,993	53,674	29,820	31,808	23,344	337,290
18 Roza	1,679	-	1,647	1,090	1,200	3,998	2,359	2,359	4,546	4,523	4,314	2,206	2,353	-	32,273
Total Independent Hydro															
19 Federal Entities	157,432	134,202	89,824	48,212	55,944	117,108	103,429	113,202	341,795	341,531	186,536	81,158	86,780	155,298	2,012,452
20 Total Independent Hydro	157,432	134,202	89,824	48,212	55,944	117,108	103,429	113,202	341,795	341,531	186,536	81,158	86,780	155,298	2,012,452

Table 3.2.3
Bonneville Power Administration - Power Services: Independent Hydro
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Independent Hydro															
1 Anderson Ranch	1,346	1,327	1,319	1,377	1,381	1,352	1,473	1,473	3,746	11,295	10,723	3,140	3,349	2,736	46,039
2 Big Cliff	3,557	4,165	2,114	1,330	1,682	1,816	1,323	2,209	6,861	5,946	2,431	888	934	3,214	38,471
3 Black Canyon	1,809	1,128	945	1,048	1,037	1,323	1,334	1,334	2,721	2,641	2,744	1,350	1,440	2,558	23,413
4 Boise River Diversion	250	-	-	-	-	-	315	135	785	764	797	380	405	765	4,596
5 Chandler	1,853	2,126	1,177	1,805	2,169	3,134	952	952	1,926	1,848	2,115	670	714	1,763	23,205
6 Cougar	8,745	7,465	2,858	2,202	1,784	4,033	4,408	4,408	9,976	8,816	5,730	3,851	3,737	5,188	73,200
7 Cowlitz Falls	1,988	1,022	7,765	3,328	3,990	10,627	7,198	7,854	21,130	20,403	10,000	2,095	1,765	2,861	102,026
8 Detroit	-	-	-	3,930	-	-	-	-	32,777	17,510	-	-	-	-	54,218
9 Dexter	4,059	5,046	1,247	1,160	1,360	1,469	1,784	1,873	5,677	5,055	2,048	718	781	3,633	35,910
10 Foster	2,129	2,428	4,277	1,429	2,647	6,481	3,426	3,496	7,912	6,992	2,121	853	822	2,168	47,181
11 Green Peter	6,343	6,208	-	2,659	108	-	12,506	-	5,888	-	3,293	689	2,387	7,064	47,145
12 Green Springs	1,121	250	128	388	425	809	662	662	2,009	1,937	1,960	899	959	1,811	14,021
13 Hills Creek	7,464	8,626	1,596	1,320	1,323	1,615	4,213	4,758	12,040	10,640	4,776	1,199	1,146	8,406	69,123
14 Lookout Point	-	-	2,878	2,679	3,314	4,579	-	-	9,336	-	-	2,909	3,150	-	28,845
15 Lost Creek	12,151	6,099	6,154	6,363	3,745	4,225	2,224	2,381	19,402	17,146	15,954	6,727	6,264	7,605	116,439
16 Minidoka	2,142	735	736	732	637	736	1,622	1,622	7,780	7,019	6,982	2,944	3,140	3,490	40,317
17 Palisades	14,596	3,491	3,602	3,573	3,706	8,894	8,055	8,055	48,141	47,051	40,872	22,171	23,649	17,614	253,470
18 Roza	1,353	829	1,395	839	898	2,992	1,748	1,748	3,496	3,347	3,579	1,579	1,684	2,437	27,925
Total Independent Hydro															
19 Federal Entities	70,906	50,945	38,191	36,161	30,206	54,083	53,243	42,961	201,604	168,410	116,127	53,062	56,328	73,315	1,045,542
20 Total Independent Hydro	70,906	50,945	38,191	36,161	30,206	54,083	53,243	42,961	201,604	168,410	116,127	53,062	56,328	73,315	1,045,542

Table 3.2.3

Bonneville Power Administration - Power Services: Independent Hydro
 Fiscal Year 2023 Water Year: 1937
 BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Independent Hydro															
1 Anderson Ranch	1,346	1,327	1,319	1,377	1,381	1,352	1,473	1,473	3,746	11,295	10,723	3,140	3,349	2,736	46,039
2 Big Cliff	3,557	4,165	2,114	1,330	1,682	1,816	1,323	2,442	6,542	5,946	2,431	888	934	3,214	38,384
3 Black Canyon	1,809	1,128	945	1,048	1,037	1,323	1,334	1,334	2,721	2,641	2,744	1,350	1,440	2,558	23,413
4 Boise River Diversion	250	-	-	-	-	-	315	135	785	764	797	380	405	765	4,596
5 Chandler	1,853	2,126	1,177	1,805	2,169	3,134	952	952	1,926	1,848	2,115	670	714	1,763	23,205
6 Cougar	8,745	7,465	2,858	2,202	1,784	4,033	4,408	4,872	9,512	8,816	5,730	3,851	3,737	5,188	73,200
7 Cowlitz Falls	1,988	1,022	7,765	3,328	3,990	10,627	7,198	7,854	21,130	20,403	10,000	2,095	1,765	2,861	102,026
8 Detroit	-	-	-	3,930	-	-	-	1,041	30,965	17,510	-	-	-	-	53,446
9 Dexter	4,059	5,046	1,247	1,160	1,360	1,469	1,784	2,070	5,413	5,055	2,048	718	781	3,633	35,843
10 Foster	2,129	2,428	4,277	1,429	2,647	6,481	3,426	3,864	7,544	6,992	2,121	853	822	2,168	47,181
11 Green Peter	6,343	6,208	-	2,659	108	-	12,506	-	4,400	-	3,293	689	2,387	7,064	45,657
12 Green Springs	1,121	250	128	388	425	809	662	662	2,009	1,937	1,960	899	959	1,811	14,021
13 Hills Creek	7,464	8,626	1,596	1,320	1,323	1,615	4,213	5,259	11,480	10,640	4,776	1,199	1,146	8,406	69,064
14 Lookout Point	-	-	2,878	2,679	3,314	4,579	-	-	7,128	-	-	2,909	3,150	-	26,637
15 Lost Creek	12,151	6,099	6,154	6,363	3,745	4,225	2,224	2,632	18,499	17,146	15,954	6,727	6,264	7,605	115,787
16 Minidoka	2,142	735	736	732	637	736	1,622	1,622	7,780	7,019	6,982	2,944	3,140	3,490	40,317
17 Palisades	14,596	3,491	3,602	3,573	3,706	8,894	8,055	8,055	48,141	47,051	40,872	22,171	23,649	17,614	253,470
18 Roza	1,353	829	1,395	839	898	2,992	1,748	1,748	3,496	3,347	3,579	1,579	1,684	2,437	27,925
Total Independent Hydro															
19 Federal Entities	70,906	50,945	38,191	36,161	30,206	54,083	53,243	46,015	193,218	168,410	116,127	53,062	56,328	73,315	1,040,211
20 Total Independent Hydro	70,906	50,945	38,191	36,161	30,206	54,083	53,243	46,015	193,218	168,410	116,127	53,062	56,328	73,315	1,040,211

Table 3.2.4

Bonneville Power Administration - Power Services: Independent Hydro
 Fiscal Year 2022 Water Year: 1937
 BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1Hr-MW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep
Independent Hydro														
1 Anderson Ranch	4.19	4.36	4.27	4.31	4.76	4.31	9.41	9.41	11.8	37.0	33.2	20.1	20.1	8.78
2 Big Cliff	10.8	13.0	6.45	3.86	5.84	5.84	8.70	14.5	19.9	19.6	7.07	5.84	5.84	10.0
3 Black Canyon	5.45	3.61	2.98	3.27	3.53	4.19	8.53	8.53	8.53	8.53	8.53	8.53	8.53	8.31
4 Boise River Diversion	0.73	0	0	0	0	0	0.88	0.88	2.50	2.50	2.50	2.46	2.46	2.50
5 Chandler	5.70	7.34	3.38	5.51	7.47	9.80	6.06	6.06	5.97	5.80	6.09	4.60	4.60	5.59
6 Cougar	26.7	23.3	8.71	6.40	6.19	13.0	29.0	29.0	29.0	29.0	16.7	25.3	23.4	16.2
7 Cowlitz Falls	6.20	3.10	23.1	10.00	13.7	33.3	46.1	50.3	63.6	66.3	28.9	13.3	10.5	9.50
8 Detroit	115	115	96.0	96.0	115	115	115	115	115	115	115	115	115	115
9 Dexter	12.4	15.7	3.80	3.37	4.72	4.72	11.7	12.3	16.5	16.6	5.95	4.72	4.88	11.4
10 Foster	6.49	7.56	13.0	4.15	9.19	20.8	22.5	23.0	23.0	23.0	6.17	5.61	5.14	6.77
11 Green Peter	19.3	19.3	93.0	7.73	0.37	93.0	93.0	93.0	93.0	93.0	9.57	4.54	14.9	22.1
12 Green Springs	5.02	5.95	6.34	6.94	6.74	7.97	8.26	8.26	8.78	8.98	8.01	7.94	7.94	6.91
13 Hills Creek	22.8	26.9	4.86	3.84	4.59	5.19	27.7	31.3	35.0	35.0	13.9	7.89	7.16	26.3
14 Lookout Point	138	138	8.78	7.79	11.5	14.7	138	138	138	138	138	19.1	19.7	138
15 Lost Creek	19.3	6.68	13.7	6.24	9.64	13.5	14.6	15.7	55.2	56.3	46.3	44.3	39.2	23.8
16 Minidoka	6.48	2.40	2.32	2.32	2.57	2.32	10.3	10.3	24.6	22.7	21.7	19.0	19.0	11.5
17 Palisades	45.5	11.3	11.2	11.4	12.8	28.2	51.7	51.7	152	151	127	144	144	56.9
18 Roza	4.08	1.15	4.09	2.59	3.12	9.41	11.4	11.4	10.8	10.9	10.6	10.5	10.5	3.39
Total Independent Hydro														
19 Federal Entities	454	405	306	186	222	385	613	629	813	840	605	463	463	483
20 Total Independent Hydro	454	405	306	186	222	385	613	629	813	840	605	463	463	483

Table 3.2.4

Bonneville Power Administration - Power Services: Independent Hydro
 Fiscal Year 2023 Water Year: 1937
 BP22 Final Proposal - Rate Case Study Report Date: 6/3/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1Hr-MW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep
Independent Hydro														
1 Anderson Ranch	4.19	4.36	4.27	4.31	4.76	4.31	9.41	9.41	11.8	37.0	33.2	20.1	20.1	8.78
2 Big Cliff	10.8	13.0	6.45	3.86	5.84	5.84	8.70	14.5	19.9	19.6	7.07	5.84	5.84	10.0
3 Black Canyon	5.45	3.61	2.98	3.27	3.53	4.19	8.53	8.53	8.53	8.53	8.53	8.53	8.53	8.31
4 Boise River Diversion	0.73	0	0	0	0	0	0.88	0.88	2.50	2.50	2.50	2.46	2.46	2.50
5 Chandler	5.70	7.34	3.38	5.51	7.47	9.80	6.06	6.06	5.97	5.80	6.09	4.60	4.60	5.59
6 Cougar	26.7	23.3	8.71	6.40	6.19	13.0	29.0	29.0	29.0	29.0	16.7	25.3	23.4	16.2
7 Cowlitz Falls	6.20	3.10	23.1	10.00	13.7	33.3	46.1	50.3	63.6	66.3	28.9	13.3	10.5	9.50
8 Detroit	115	115	96.0	96.0	115	115	115	115	115	115	115	115	115	115
9 Dexter	12.4	15.7	3.80	3.37	4.72	4.72	11.7	12.3	16.5	16.6	5.95	4.72	4.88	11.4
10 Foster	6.49	7.56	13.0	4.15	9.19	20.8	22.5	23.0	23.0	23.0	6.17	5.61	5.14	6.77
11 Green Peter	19.3	19.3	93.0	7.73	0.37	93.0	93.0	93.0	93.0	93.0	9.57	4.54	14.9	22.1
12 Green Springs	5.02	5.95	6.34	6.94	6.74	7.97	8.26	8.26	8.78	8.98	8.01	7.94	7.94	6.91
13 Hills Creek	22.8	26.9	4.86	3.84	4.59	5.19	27.7	31.3	35.0	35.0	13.9	7.89	7.16	26.3
14 Lookout Point	138	138	8.78	7.79	11.5	14.7	138	138	138	138	138	19.1	19.7	138
15 Lost Creek	19.3	6.68	13.7	6.24	9.64	13.5	14.6	15.7	55.2	56.3	46.3	44.3	39.2	23.8
16 Minidoka	6.48	2.40	2.32	2.32	2.57	2.32	10.3	10.3	24.6	22.7	21.7	19.0	19.0	11.5
17 Palisades	45.5	11.3	11.2	11.4	12.8	28.2	51.7	51.7	152	151	127	144	144	56.9
18 Roza	4.08	1.15	4.09	2.59	3.12	9.41	11.4	11.4	10.8	10.9	10.6	10.5	10.5	3.39
Total Independent Hydro														
19 Federal Entities	454	405	306	186	222	385	613	629	813	840	605	463	463	483
20 Total Independent Hydro	454	405	306	186	222	385	613	629	813	840	605	463	463	483

Table 3.3.1

Bonneville Power Administration - Power Services: Small Hydro
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/4/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Small Hydro															
1 Dworshak-Clearwater Hatchery	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63
2 Rocky Brook	0.04	0.21	0.56	0.58	0.42	0.47	0.46	0.46	0.20	0.09	0.00	0.00	0.00	0	0.25
Total Small Hydro															
3 Federal Entities	2.67	2.84	3.19	3.21	3.05	3.10	3.09	3.09	2.83	2.72	2.63	2.63	2.63	2.63	2.88
4 Total Small Hydro	2.67	2.84	3.19	3.21	3.05	3.10	3.09	3.09	2.83	2.72	2.63	2.63	2.63	2.63	2.88

Table 3.3.1

Bonneville Power Administration - Power Services: Small Hydro
Fiscal Year 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/4/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Small Hydro															
1 Dworshak-Clearwater Hatchery	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63
2 Rocky Brook	0.04	0.21	0.56	0.58	0.42	0.47	0.46	0.46	0.20	0.09	0.00	0.00	0.00	0	0.25
Total Small Hydro															
3 Federal Entities	2.67	2.84	3.19	3.21	3.05	3.10	3.09	3.09	2.83	2.72	2.63	2.63	2.63	2.63	2.88
4 Total Small Hydro	2.67	2.84	3.19	3.21	3.05	3.10	3.09	3.09	2.83	2.72	2.63	2.63	2.63	2.63	2.88

Table 3.3.2

Bonneville Power Administration - Power Services: Small Hydro
 Fiscal Year 2022 Water Year: 1937
 BP22 Final Proposal - Rate Case Study Report Date: 6/4/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Small Hydro															
1 Dworshak-Clearwater Hatchery	1094	1052	1094	1052	1010	1136	547	547	1052	1094	1052	547	589	1052	12919
2 Rocky Brook	19.0	88.0	239	247	162	199	95.0	95.0	85.0	36.0	1.00	1.00	1.00	0	1268
Total Small Hydro															
3 Federal Entities	1113	1140	1333	1299	1172	1335	642	642	1137	1130	1053	548	590	1052	14187
4 Total Small Hydro	1113	1140	1333	1299	1172	1335	642	642	1137	1130	1053	548	590	1052	14187

Table 3.3.2

Bonneville Power Administration - Power Services: Small Hydro
 Fiscal Year 2023 Water Year: 1937
 BP22 Final Proposal - Rate Case Study Report Date: 6/4/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Small Hydro															
1 Dworshak-Clearwater Hatchery	1,094	1,052	1,094	1,052	1,010	1,136	547	505	1,094	1,094	1,052	547	589	1,052	12,919
2 Rocky Brook	19	88	239	247	162	199	95	95	85	36	1	1	1	-	1,268
Total Small Hydro															
3 Federal Entities	1,113	1,140	1,333	1,299	1,172	1,335	642	600	1,179	1,130	1,053	548	590	1,052	14,187
4 Total Small Hydro	1,113	1,140	1,333	1,299	1,172	1,335	642	600	1,179	1,130	1,053	548	590	1,052	14,187

Table 3.3.3

Bonneville Power Administration - Power Services: Small Hydro
Fiscal Year 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/4/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Small Hydro															
1 Dworshak-Clearwater Hatchery	863	844	863	905	757	818	400	400	905	800	905	400	421	842	10,120
2 Rocky Brook	14	61	175	181	121	149	70	70	67	26	1	-	-	-	935
Total Small Hydro															
3 Federal Entities	877	905	1,038	1,086	878	967	470	470	972	826	906	400	421	842	11,055
4 Total Small Hydro	877	905	1,038	1,086	878	967	470	470	972	826	906	400	421	842	11,055

Table 3.3.3

Bonneville Power Administration - Power Services: Small Hydro
Fiscal Year 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/4/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Small Hydro															
1 Dworshak-Clearwater Hatchery	863	844	863	905	757	818	400	442	863	800	905	400	421	842	10,120
2 Rocky Brook	14	61	175	181	121	149	70	70	67	26	1	-	-	-	935
Total Small Hydro															
3 Federal Entities	877	905	1,038	1,086	878	967	470	512	930	826	906	400	421	842	11,055
4 Total Small Hydro	877	905	1,038	1,086	878	967	470	512	930	826	906	400	421	842	11,055

Table 3.3.4

Bonneville Power Administration - Power Services: Small Hydro

Fiscal Year 2022 Water Year: 1937

BP22 Final Proposal - Rate Case Study Report Date: 6/4/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1Hr-MW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep
Small Hydro														
1 Dworshak-Clearwater Hatchery	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
2 Rocky Brook	1.11	1.49	1.60	1.59	1.62	1.58	1.58	1.58	1.58	1.09	0.19	0.49	0.49	-
Total Small Hydro														
3 Federal Entities	4.11	4.49	4.60	4.59	4.62	4.58	4.58	4.58	4.58	4.09	3.19	3.49	3.49	3.00
4 Total Small Hydro	4.11	4.49	4.60	4.59	4.62	4.58	4.58	4.58	4.58	4.09	3.19	3.49	3.49	3.00

Table 3.3.4

Bonneville Power Administration - Power Services: Small Hydro
Fiscal Year 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/4/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1Hr-MW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep
Small Hydro														
1 Dworshak-Clearwater Hatchery	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
2 Rocky Brook	1.11	1.49	1.60	1.59	1.62	1.58	1.58	1.58	1.58	1.09	0.19	0.49	0.49	0
Total Small Hydro														
3 Federal Entities	4.11	4.49	4.60	4.59	4.62	4.58	4.58	4.58	4.58	4.09	3.19	3.49	3.49	3.00
4 Total Small Hydro	4.11	4.49	4.60	4.59	4.62	4.58	4.58	4.58	4.58	4.09	3.19	3.49	3.49	3.00

4. OTHER RESOURCE FORECASTS FOR FY 2022 AND FY 2023.....69

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Table 4.1.1
Bonneville Power Administration - Power Services: Large Thermal Resources
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Large Thermal Resources															
1 Columbia Generating Station	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116
Total Large Thermal Resources															
3 Federal Entities	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116
4 Total	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116

Table 4.1.1
Bonneville Power Administration - Power Services: Large Thermal Resources
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Large Thermal Resources															
1 Columbia Generating Station	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	360	409	1,116	1,116	1,116	1,116	994
Total Large Thermal Resources															
3 Federal Entities	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	360	409	1,116	1,116	1,116	1,116	994
4 Total	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	360	409	1,116	1,116	1,116	1,116	994

Table 4.1.2
Bonneville Power Administration - Power Services: Large Thermal Resources
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Large Thermal Resources															
1 Columbia Generating Station	464,256	446,400	464,256	446,400	428,544	482,112	232,128	232,128	446,400	464,256	446,400	232,128	249,984	446,400	5,481,792
Total Large Thermal Resources															
3 Federal Entities	464,256	446,400	464,256	446,400	428,544	482,112	232,128	232,128	446,400	464,256	446,400	232,128	249,984	446,400	5,481,792
4 Total	464,256	446,400	464,256	446,400	428,544	482,112	232,128	232,128	446,400	464,256	446,400	232,128	249,984	446,400	5,481,792

Table 4.1.2
Bonneville Power Administration - Power Services: Large Thermal Resources
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Large Thermal Resources															
1 Columbia Generating Station	464,256	446,400	464,256	446,400	428,544	482,112	232,128	214,272	149,760	170,144	446,400	232,128	249,984	446,400	4,873,184
Total Large Thermal Resources															
3 Federal Entities	464,256	446,400	464,256	446,400	428,544	482,112	232,128	214,272	149,760	170,144	446,400	232,128	249,984	446,400	4,873,184
4 Total	464,256	446,400	464,256	446,400	428,544	482,112	232,128	214,272	149,760	170,144	446,400	232,128	249,984	446,400	4,873,184

Table 4.1.3
Bonneville Power Administration - Power Services: Large Thermal Resources
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Large Thermal Resources															
1 Columbia Generating Station	366,048	358,236	366,048	383,904	321,408	347,076	169,632	169,632	383,904	339,264	383,904	169,632	178,560	357,120	4,294,368
Total Large Thermal Resources															
3 Federal Entities	366,048	358,236	366,048	383,904	321,408	347,076	169,632	169,632	383,904	339,264	383,904	169,632	178,560	357,120	4,294,368
4 Total	366,048	358,236	366,048	383,904	321,408	347,076	169,632	169,632	383,904	339,264	383,904	169,632	178,560	357,120	4,294,368

Table 4.1.3
Bonneville Power Administration - Power Services: Large Thermal Resources
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A LLH-MWh	B Oct	C Nov	D Dec	E Jan	F Feb	G Mar	H Apr1	I Apr16	J May	K Jun	L Jul	M Aug1	N Aug16	O Sep	P Sum
Large Thermal Resources															
1 Columbia Generating Station	366,048	358,236	366,048	383,904	321,408	347,076	169,632	187,488	118,080	124,336	383,904	169,632	178,560	357,120	3,831,472
Total Large Thermal Resources															
3 Federal Entities	366,048	358,236	366,048	383,904	321,408	347,076	169,632	187,488	118,080	124,336	383,904	169,632	178,560	357,120	3,831,472
4 Total	366,048	358,236	366,048	383,904	321,408	347,076	169,632	187,488	118,080	124,336	383,904	169,632	178,560	357,120	3,831,472

Table 4.1.4
Bonneville Power Administration - Power Services: Large Thermal Resources
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1Hr-MW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep
Large Thermal Resources														
1 Columbia Generating Station	1,181	1,179	1,180	1,169	1,169	1,169	1,160	1,160	1,151	1,154	1,168	1,163	1,163	1,179
Total Large Thermal Resources														
3 Federal Entities	1,181	1,179	1,180	1,169	1,169	1,169	1,160	1,160	1,151	1,154	1,168	1,163	1,163	1,179
4 Total	1,181	1,179	1,180	1,169	1,169	1,169	1,160	1,160	1,151	1,154	1,168	1,163	1,163	1,179

Table 4.1.4
Bonneville Power Administration - Power Services: Large Thermal Resources
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1Hr-MW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep
Large Thermal Resources														
1 Columbia Generating Station	1,181	1,179	1,180	1,169	1,169	1,169	1,160	1,160	-	-	1,168	1,163	1,163	1,179
Total Large Thermal Resources														
3 Federal Entities	1,181	1,179	1,180	1,169	1,169	1,169	1,160	1,160	-	-	1,168	1,163	1,163	1,179
4 Total	1,181	1,179	1,180	1,169	1,169	1,169	1,160	1,160	-	-	1,168	1,163	1,163	1,179

Table 4.2.1
Bonneville Power Administration - Power Services: Renewable Resources
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Renewable Resources															
1 Condon Wind	8.98	12.9	9.81	5.25	8.68	9.98	17.8	15.0	16.1	15.9	15.5	8.02	12.0	11.2	11.7
4 Fourmile Hill Geothermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Klondike Wind 1	4.33	6.20	4.73	2.53	4.18	4.81	8.60	7.24	0	0	0	0	0	0	2.87
8 Klondike Wind 3	9.03	12.9	9.86	5.28	8.73	10.0	17.9	15.1	16.2	16.0	15.6	8.06	12.1	11.2	11.8
10 Stateline Wind	16.2	23.3	17.7	9.49	15.7	18.0	32.3	27.2	29.1	28.7	28.1	14.5	21.8	20.2	21.2
Total Renewable Resources															
13 Federal Entities	38.6	55.3	42.1	22.5	37.3	42.9	76.7	64.5	61.3	60.6	59.2	30.6	45.9	42.6	47.6
14 Total	38.6	55.3	42.1	22.5	37.3	42.9	76.7	64.5	61.3	60.6	59.2	30.6	45.9	42.6	47.6

Table 4.2.1
Bonneville Power Administration - Power Services: Renewable Resources
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Renewable Resources															
1 Condon Wind	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Fourmile Hill Geothermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Klondike Wind 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Klondike Wind 3	9.03	12.9	9.86	5.28	8.73	10.0	17.9	15.1	16.2	16.0	15.6	8.06	12.1	11.2	11.8
10 Stateline Wind	16.2	23.3	17.7	9.49	15.7	18.0	32.3	27.2	29.1	28.7	28.1	14.5	21.8	20.2	21.2
Total Renewable Resources															
13 Federal Entities	25.3	36.2	27.6	14.8	24.4	28.1	50.2	42.3	45.2	44.7	43.7	22.6	33.8	31.5	33.0
14 Total	25.3	36.2	27.6	14.8	24.4	28.1	50.2	42.3	45.2	44.7	43.7	22.6	33.8	31.5	33.0

Table 4.2.2

Bonneville Power Administration - Power Services: Renewable Resources
 Fiscal Year 2022
 BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021
 S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Renewable Resources															
1 Condon Wind	3,594	4,119	3,700	2,037	3,621	4,396	3,867	3,259	6,680	6,551	6,398	1,535	2,623	4,803	57,183
2 Condon 1	1,775	2,035	1,828	1,006	1,789	2,172	1,910	1,610	3,300	3,237	3,161	758	1,296	2,372	28,248
3 Condon 2	1,818	2,084	1,872	1,031	1,832	2,224	1,957	1,649	3,380	3,315	3,238	777	1,327	2,430	28,935
4 Fourmile Hill Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6 Klondike Wind 1	1,732	1,985	1,783	982	1,745	2,118	1,864	1,571	-	-	-	-	-	-	13,780
8 Klondike Wind 3	3,614	4,143	3,721	2,049	3,642	4,421	3,890	3,278	6,718	6,589	6,435	1,544	2,638	4,830	57,513
10 Stateline Wind	6,501	7,451	6,693	3,685	6,551	7,953	6,996	5,896	12,084	11,852	11,575	2,777	4,744	8,688	103,447
11 Stateline-OR	2,621	3,004	2,698	1,486	2,641	3,206	2,820	2,377	4,871	4,778	4,666	1,119	1,912	3,502	41,700
12 Stateline-WA	3,881	4,448	3,995	2,200	3,911	4,747	4,176	3,520	7,213	7,074	6,909	1,658	2,832	5,186	61,748
Total Renewable Resources															
13 Federal Entities	15,441	17,698	15,896	8,753	15,560	18,888	16,617	14,005	25,482	24,993	24,408	5,856	10,005	18,321	231,923
14 Total	15,441	17,698	15,896	8,753	15,560	18,888	16,617	14,005	25,482	24,993	24,408	5,856	10,005	18,321	231,923

Table 4.2.2
Bonneville Power Administration - Power Services: Renewable Resources
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Renewable Resources															
1 Condon Wind	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4 Fourmile Hill Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6 Klondike Wind 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8 Klondike Wind 3	3,614	4,143	3,721	2,049	3,642	4,421	3,890	3,278	6,718	6,589	6,435	1,544	2,638	4,830	57,513
10 Stateline Wind	6,501	7,451	6,693	3,685	6,551	7,953	6,996	5,896	12,084	11,852	11,575	2,777	4,744	8,688	103,447
Total Renewable Resources															
13 Federal Entities	10,116	11,594	10,414	5,734	10,194	12,374	10,886	9,175	18,803	18,441	18,010	4,321	7,382	13,519	160,960
14 Total	10,116	11,594	10,414	5,734	10,194	12,374	10,886	9,175	18,803	18,441	18,010	4,321	7,382	13,519	160,960

Table 4.2.3
Bonneville Power Administration - Power Services: Renewable Resources
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Renewable Resources															
1 Condon Wind	3,086	5,158	3,597	1,865	2,210	3,017	2,557	2,146	5,270	4,882	5,151	1,350	1,995	3,242	45,527
4 Fourmile Hill Geothermal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6 Klondike Wind 1	1,487	2,486	1,734	899	1,065	1,454	1,232	1,034	-	-	-	-	-	-	11,391
8 Klondike Wind 3	3,104	5,188	3,618	1,876	2,223	3,035	2,571	2,158	5,300	4,910	5,181	1,358	2,006	3,261	45,789
10 Stateline Wind	5,583	9,331	6,508	3,374	3,998	5,458	4,625	3,882	9,533	8,832	9,318	2,443	3,608	5,865	82,360
Total Renewable Resources															
13 Federal Entities	13,260	22,162	15,457	8,015	9,497	12,964	10,986	9,220	20,103	18,625	19,650	5,152	7,609	12,368	185,067
14 Total	13,260	22,162	15,457	8,015	9,497	12,964	10,986	9,220	20,103	18,625	19,650	5,152	7,609	12,368	185,067

Table 4.2.3

Bonneville Power Administration - Power Services: Renewable Resources
 Fiscal Year 2023
 BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Renewable Resources															
1 Condon Wind	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Fourmile Hill Geothermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Klondike Wind 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Klondike Wind 3	3104	5188	3618	1876	2223	3035	2571	2158	5300	4910	5181	1358	2006	3261	45789
10 Stateline Wind	5583	9331	6508	3374	3998	5458	4625	3882	9533	8832	9318	2443	3608	5865	82360
Total Renewable Resources															
13 Federal Entities	8687	14519	10126	5251	6221	8493	7197	6040	14833	13742	14499	3801	5615	9126	128149
14 Total	8687	14519	10126	5251	6221	8493	7197	6040	14833	13742	14499	3801	5615	9126	128149

Table 4.2.4
Bonneville Power Administration - Power Services: Renewable Resources
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1Hr-MW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep
Renewable Resources														
1 Condon Wind	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Fourmile Hill Geothermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Klondike Wind 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Klondike Wind 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Stateline Wind	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Renewable Resources														
13 Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4.2.4
Bonneville Power Administration - Power Services: Renewable Resources
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1Hr-MW	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep
Renewable Resources														
1 Condon Wind	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Fourmile Hill Geothermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Klondike Wind 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Klondike Wind 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Stateline Wind	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Renewable Resources														
13 Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

5. PNW REGIONAL HYDRO FORECASTS BY WATER YEAR87

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Table 5.1.1
Regional Net Hydro Surplus Deficit By Water Year
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021
S215-RC-20210504-203021

A		B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW - Surplus Deficit		Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
1	1929	10,986	12,918	12,664	12,201	11,739	11,177	11,178	9,728	12,131	16,226	11,624	11,221	10,904	10,615	11,979
2	1930	9,609	12,109	11,955	11,974	11,981	10,680	9,931	9,966	13,383	13,265	12,822	11,277	10,960	10,546	11,614
3	1931	9,728	12,610	12,313	11,801	11,461	11,459	10,143	9,547	12,720	12,435	12,440	11,532	10,686	10,034	11,498
4	1932	9,651	12,200	12,383	12,633	10,094	15,488	16,674	17,443	19,014	20,839	15,494	12,679	12,669	10,661	14,035
5	1933	10,425	13,383	15,978	18,286	18,475	15,350	13,853	12,253	16,758	23,275	21,263	16,314	16,066	11,373	16,141
6	1934	12,662	18,425	22,828	24,218	22,474	18,899	19,855	18,133	18,969	17,325	11,928	11,058	11,031	9,954	17,280
7	1935	9,896	12,772	14,280	17,523	18,537	13,999	11,132	11,477	16,534	16,841	16,590	15,090	11,728	10,175	14,299
8	1936	10,093	12,334	12,298	11,631	10,869	11,927	11,057	15,407	19,971	19,247	14,914	11,575	11,296	10,018	13,177
9	1937	9,891	12,418	12,485	10,877	9,537	10,259	10,182	9,770	13,476	15,177	12,597	11,373	10,528	10,235	11,500
10	1938	10,240	13,704	14,843	18,222	14,452	17,036	15,752	19,266	19,092	19,093	16,591	11,505	10,896	10,491	15,211
11	1939	10,308	12,393	12,941	14,479	14,313	12,648	12,114	13,277	16,808	14,758	13,617	11,644	10,937	10,400	13,048
12	1940	9,984	12,671	13,068	15,472	14,025	15,677	13,850	12,462	15,679	14,065	11,657	10,118	10,333	9,669	12,943
13	1941	10,112	12,989	13,997	12,583	11,409	11,594	10,670	9,912	13,431	13,794	11,997	11,142	10,813	10,005	11,937
14	1942	10,357	13,452	17,540	16,990	15,579	11,256	10,682	13,008	13,892	19,248	17,120	12,674	12,529	10,629	14,203
15	1943	10,054	12,830	14,694	18,999	19,419	16,540	21,223	20,241	18,419	21,472	20,756	14,156	12,946	10,666	16,486
16	1944	10,093	12,689	13,325	11,927	13,041	11,023	9,474	8,512	11,589	12,605	11,451	11,216	10,397	9,760	11,432
17	1945	9,580	12,009	12,788	12,126	11,114	11,320	10,497	9,275	15,429	19,458	12,157	11,962	10,882	10,555	12,322
18	1946	9,939	13,057	14,993	17,209	15,436	16,580	17,760	19,405	19,677	19,794	18,242	14,509	14,441	10,847	15,740
19	1947	10,316	14,601	20,155	20,254	21,119	17,823	14,386	14,588	18,551	19,146	17,205	13,543	12,275	11,071	16,448
20	1948	15,377	16,930	16,901	20,399	19,510	14,011	13,190	17,799	22,060	23,237	17,708	16,455	16,696	11,609	17,476
21	1949	11,323	14,087	13,573	16,897	14,342	17,644	14,961	19,079	20,879	18,329	13,058	10,745	10,470	10,048	14,820
22	1950	9,970	13,361	14,789	21,102	19,075	19,370	19,033	17,099	17,386	23,096	23,215	17,080	16,421	11,351	17,287
23	1951	13,397	18,049	21,110	23,292	24,504	19,904	19,108	18,051	19,308	19,254	20,370	15,274	13,078	11,320	18,573
24	1952	14,935	15,622	17,357	19,393	19,675	15,786	17,277	20,082	21,655	19,271	17,319	13,913	11,698	10,473	16,899
25	1953	9,848	12,648	12,505	15,788	20,982	13,347	10,692	10,362	17,040	22,927	19,749	14,299	13,805	11,225	15,011
26	1954	10,913	14,289	16,520	20,318	20,482	16,770	15,035	14,834	19,317	21,612	22,718	18,220	18,860	14,363	17,555
27	1955	11,876	15,920	15,900	14,298	14,279	10,644	12,148	10,115	15,440	22,260	22,277	16,754	14,812	11,021	15,073
28	1956	12,269	17,056	20,419	23,903	21,725	19,045	17,915	22,545	21,328	23,684	20,137	15,733	15,476	11,124	18,862
29	1957	11,814	14,041	16,641	16,659	15,342	15,701	18,715	14,893	22,068	22,862	15,400	13,600	11,422	10,423	15,855
30	1958	9,997	12,747	14,029	18,344	18,686	14,916	12,529	15,482	20,736	20,947	14,531	13,042	11,497	10,646	15,129
31	1959	10,529	15,673	19,168	22,510	21,790	16,736	15,670	15,582	17,283	21,624	20,768	15,580	16,013	15,740	17,744
32	1960	17,909	18,845	18,495	18,133	18,046	14,952	19,461	16,675	17,152	19,489	16,957	14,609	11,797	10,784	16,823
33	1961	10,628	14,478	14,778	19,186	18,383	17,647	15,767	12,710	18,401	21,615	14,676	12,863	11,986	10,440	15,554
34	1962	9,741	13,132	14,753	16,574	18,465	11,698	15,058	18,303	17,546	19,337	14,635	14,088	12,951	10,929	14,716
35	1963	11,319	15,896	18,273	17,399	19,836	12,858	11,919	10,878	16,301	19,464	16,345	13,947	12,294	11,506	15,279
36	1964	10,603	13,291	14,702	15,130	16,468	11,538	14,021	11,845	17,449	23,521	21,794	16,368	15,427	12,628	15,486
37	1965	12,470	14,854	20,697	23,600	24,539	19,738	15,370	17,432	20,225	20,402	18,544	16,514	16,232	11,329	18,239
38	1966	11,273	13,274	15,012	16,340	17,448	13,293	15,182	13,734	15,592	18,020	16,197	13,550	11,568	10,618	14,485
39	1967	10,095	12,913	16,326	20,365	21,558	16,551	13,971	12,319	16,884	23,039	19,837	14,648	13,905	11,124	16,313
40	1968	11,514	14,818	15,445	19,366	18,833	18,132	10,709	9,074	15,872	20,095	17,274	14,918	14,367	13,622	15,779

Table 5.1.1
Regional Net Hydro Surplus Deficit By Water Year
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021
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A		B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW - Surplus Deficit		Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
41	1969	13,145	16,997	17,382	22,030	21,501	16,855	19,854	19,792	20,785	20,091	17,413	13,531	12,772	11,064	17,492
42	1970	10,662	13,846	13,927	17,441	19,407	13,715	10,806	9,365	17,350	22,040	13,450	12,317	11,799	10,799	14,529
43	1971	10,046	13,278	14,607	22,715	24,609	19,629	17,751	17,827	21,518	23,781	21,209	16,940	16,912	11,693	18,113
44	1972	11,654	14,621	16,112	22,948	21,825	23,849	21,647	17,001	20,862	23,544	21,321	17,283	17,551	12,171	18,794
45	1973	12,025	13,911	15,795	16,338	15,107	11,941	11,756	8,110	14,065	14,352	11,978	11,201	9,998	9,903	12,987
46	1974	9,762	14,044	17,873	25,946	24,530	21,977	19,786	20,165	20,111	23,606	23,262	17,515	17,677	11,975	19,197
47	1975	10,563	13,113	14,618	17,802	18,280	16,758	12,590	12,773	17,679	22,758	21,647	14,869	14,872	12,120	16,066
48	1976	13,336	17,627	22,494	22,647	21,948	18,455	18,506	17,799	20,942	20,526	20,766	19,117	20,463	15,143	19,315
49	1977	11,695	12,630	13,501	12,714	13,120	10,438	9,246	8,165	11,868	11,708	10,998	11,159	10,465	9,135	11,439
50	1978	9,714	11,940	15,634	16,514	14,297	16,078	16,010	14,965	18,311	18,673	18,348	12,806	12,219	13,406	15,084
51	1979	11,595	13,419	13,196	15,160	13,461	14,472	11,922	11,330	18,205	15,614	12,075	10,862	10,641	10,573	13,350
52	1980	10,271	12,321	12,413	15,480	12,960	12,206	12,025	16,332	20,841	20,631	14,884	11,351	11,130	10,644	14,009
53	1981	10,099	13,793	19,206	20,206	20,892	13,195	10,038	11,288	16,773	21,989	18,617	15,977	15,825	11,307	16,031
54	1982	10,710	14,254	15,830	19,790	23,116	22,398	17,417	15,395	19,523	22,392	22,382	16,331	16,852	13,139	18,019
55	1983	12,866	14,626	17,014	21,292	19,627	21,865	16,048	14,515	17,847	19,267	20,908	16,361	15,136	11,762	17,344
56	1984	11,266	18,088	17,192	20,766	19,334	18,316	15,657	16,254	17,618	22,315	19,765	15,457	13,419	11,927	17,230
57	1985	11,522	14,976	15,072	15,984	15,520	13,071	14,458	14,609	17,518	15,544	12,575	10,479	10,138	10,592	13,922
58	1986	11,785	15,986	15,346	18,308	19,398	22,718	18,820	16,654	17,186	19,759	14,118	12,231	11,359	10,386	16,185
59	1987	10,050	14,262	15,311	14,928	13,342	14,087	11,950	14,000	17,628	14,482	11,131	10,292	9,846	9,558	13,153
60	1988	9,257	12,082	12,663	11,744	11,041	11,304	10,144	12,066	13,551	14,444	13,517	11,233	10,603	10,108	11,815
61	1989	9,395	13,664	14,110	13,548	10,384	14,370	14,891	18,496	17,265	15,200	13,806	11,088	10,853	10,221	13,319
62	1990	9,955	14,277	16,872	18,795	19,348	15,977	14,241	16,537	16,155	20,061	18,491	14,971	13,232	10,350	15,791
63	1991	10,049	18,186	17,397	19,404	21,317	16,449	15,926	13,701	17,216	18,829	20,548	16,234	14,938	10,127	16,633
64	1992	10,129	13,165	12,325	14,231	13,331	13,056	11,338	10,897	15,070	12,582	10,872	10,490	10,339	9,491	12,145
65	1993	8,877	12,373	12,670	11,597	9,989	12,414	13,025	10,060	19,042	17,192	14,524	12,729	12,317	11,007	12,833
66	1994	9,736	12,661	13,059	11,894	12,202	11,905	11,556	13,503	15,287	13,482	12,212	10,634	10,119	10,081	12,117
67	1995	9,539	12,418	13,790	15,091	15,651	17,261	12,843	10,260	17,259	21,172	15,366	12,896	12,009	11,140	14,382
68	1996	12,449	19,565	24,537	25,232	25,271	22,993	17,610	20,711	19,483	21,518	20,406	15,778	13,160	11,099	19,652
69	1997	10,845	14,441	17,442	25,119	24,841	22,093	19,700	21,577	22,260	23,351	21,604	16,358	17,347	13,522	19,389
70	1998	16,557	16,413	15,554	17,173	18,948	14,929	12,090	11,880	19,969	21,215	17,376	15,282	13,477	11,036	16,283
71	1999	10,345	12,917	16,691	22,365	20,761	21,849	16,378	17,174	17,730	21,755	22,014	18,377	18,081	11,100	17,707
72	2000	10,516	17,892	18,507	18,649	17,337	16,242	17,232	18,682	17,413	15,028	16,117	13,652	11,234	10,082	15,670
73	2001	9,980	12,276	13,164	12,140	12,506	10,626	9,539	8,386	12,042	11,805	11,320	11,075	10,102	9,302	11,221
74	2002	9,344	11,227	14,026	13,450	12,526	12,476	13,510	16,699	16,687	20,984	19,055	12,597	12,168	10,407	13,979
75	2003	9,674	12,766	12,498	13,570	13,664	15,662	12,806	13,591	14,579	18,599	12,286	10,114	10,238	9,681	13,018
76	2004	9,977	13,688	14,937	14,852	13,601	12,256	12,047	12,315	14,321	16,076	12,928	10,185	11,475	10,844	13,036
77	2005	11,349	14,152	16,514	16,475	17,074	12,658	9,815	9,981	14,484	15,379	13,991	11,716	10,481	10,168	13,587
78	2006	9,308	14,043	14,959	20,053	20,850	15,210	19,041	17,551	20,345	20,605	15,190	11,348	10,566	9,875	15,766
79	2007	9,503	14,402	15,362	18,398	15,885	18,910	16,303	14,068	16,826	16,840	15,518	11,357	10,351	10,161	14,817
80	2008	9,318	12,656	13,178	15,464	13,546	13,599	11,684	9,627	18,126	22,800	18,163	12,881	12,907	10,692	14,264

Table 5.1.1
Regional Net Hydro Surplus Deficit By Water Year
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021
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A		B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW - Surplus Deficit		Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
1	1929	10,987	12,919	12,666	12,203	11,740	11,157	11,166	9,729	12,128	16,262	11,625	11,222	10,905	10,616	11,980
2	1930	9,610	12,110	11,956	11,975	11,983	10,664	9,927	9,966	13,374	13,276	12,823	11,278	10,961	10,547	11,614
3	1931	9,729	12,611	12,314	11,942	11,302	11,421	10,124	9,548	12,713	12,433	12,440	11,532	10,687	10,035	11,494
4	1932	9,652	12,201	12,384	12,634	10,096	15,420	16,575	17,335	19,082	20,960	15,487	12,680	12,670	10,662	14,036
5	1933	10,426	13,385	15,980	18,476	18,446	15,315	13,640	12,155	16,884	23,421	21,264	16,315	16,067	11,374	16,162
6	1934	12,663	18,457	22,641	24,759	22,630	18,742	19,767	18,136	19,124	17,302	11,927	11,059	11,031	9,955	17,319
7	1935	9,897	12,773	14,282	17,617	18,441	13,948	11,108	11,453	16,541	16,909	16,576	15,091	11,729	10,176	14,299
8	1936	10,094	12,335	12,299	11,697	10,770	11,907	11,028	15,424	20,206	19,390	14,915	11,576	11,297	10,019	13,205
9	1937	9,892	12,419	12,487	11,025	9,533	10,237	10,170	9,765	13,344	15,184	12,599	11,374	10,528	10,236	11,500
10	1938	10,241	13,705	14,845	18,333	14,455	16,891	15,600	19,114	19,093	19,139	16,585	11,507	10,897	10,492	15,200
11	1939	10,309	12,394	12,943	14,481	14,315	12,620	12,104	13,261	16,872	14,810	13,617	11,645	10,938	10,402	13,056
12	1940	9,985	12,672	13,070	15,856	13,583	15,585	13,791	12,403	15,667	14,064	11,656	10,118	10,334	9,671	12,928
13	1941	10,113	12,991	13,999	12,585	11,679	11,333	10,664	9,913	13,431	13,801	11,998	11,143	10,814	10,007	11,937
14	1942	10,358	13,454	17,543	17,084	15,573	11,246	10,676	13,001	13,913	19,244	17,114	12,676	12,530	10,630	14,210
15	1943	10,055	12,832	14,697	19,080	19,310	16,494	21,067	19,996	18,460	21,503	20,757	14,158	12,948	10,668	16,471
16	1944	10,094	12,691	13,327	11,929	13,043	11,000	9,459	8,512	11,589	12,619	11,452	11,217	10,397	9,761	11,432
17	1945	9,581	12,010	12,790	12,281	11,074	11,170	10,488	9,276	15,438	19,553	12,160	11,963	10,883	10,557	12,328
18	1946	9,940	13,059	14,995	17,362	15,408	16,546	17,766	19,412	19,864	19,908	18,228	14,510	14,443	10,849	15,773
19	1947	10,318	14,604	20,142	20,369	21,107	17,746	14,362	14,563	18,588	19,211	17,215	13,545	12,276	11,073	16,456
20	1948	15,379	16,932	16,903	20,460	19,428	13,965	13,121	17,739	22,321	24,263	17,699	16,452	16,697	11,610	17,572
21	1949	11,325	14,088	13,574	17,020	14,344	17,493	14,980	19,079	20,988	18,357	13,057	10,746	10,471	10,049	14,830
22	1950	9,971	13,362	14,790	21,212	18,931	19,328	18,965	16,808	17,415	23,148	23,434	17,076	16,423	11,353	17,293
23	1951	13,398	18,051	21,117	23,386	24,348	19,665	18,996	17,990	19,417	19,359	20,295	15,275	13,079	11,322	18,555
24	1952	14,937	15,624	17,359	19,466	19,603	15,738	17,259	20,075	21,720	19,409	17,311	13,914	11,700	10,475	16,911
25	1953	9,849	12,649	12,507	15,898	20,799	13,319	10,693	10,353	17,039	23,628	19,687	14,301	13,807	11,226	15,057
26	1954	10,914	14,290	16,522	20,402	20,387	16,668	14,940	14,721	19,391	21,783	22,838	18,222	18,873	14,364	17,570
27	1955	11,877	15,921	15,901	14,300	14,281	10,638	12,146	10,115	15,450	22,478	22,490	16,316	14,813	11,023	15,092
28	1956	12,270	17,057	20,419	24,006	21,446	18,979	17,833	22,616	21,760	24,576	20,088	15,735	15,478	11,126	18,950
29	1957	11,815	14,043	16,643	16,661	16,368	15,250	18,486	13,919	22,263	23,096	15,393	13,602	11,423	10,424	15,882
30	1958	9,998	12,748	14,031	18,395	18,580	14,869	12,454	15,408	20,797	21,032	14,530	13,044	11,498	10,647	15,128
31	1959	10,530	15,675	19,172	22,614	21,764	16,669	15,553	15,492	17,257	21,772	20,754	15,581	16,015	15,737	17,746
32	1960	17,911	18,873	18,497	18,311	17,935	14,928	19,354	16,614	17,169	19,587	16,955	14,610	11,798	10,785	16,833
33	1961	10,629	14,480	14,779	19,261	18,277	17,530	15,687	12,674	18,354	22,443	14,667	12,864	11,986	10,441	15,601
34	1962	9,743	13,134	14,755	16,698	18,376	11,660	15,014	18,260	17,602	19,564	14,636	14,089	12,952	10,930	14,737
35	1963	11,321	15,898	18,277	17,401	19,742	12,805	11,866	10,878	16,306	19,456	16,337	13,948	12,295	11,507	15,265
36	1964	10,604	13,293	14,703	15,132	16,471	11,518	14,027	11,841	17,451	24,320	21,803	16,370	15,429	12,630	15,552
37	1965	12,471	14,855	20,695	23,644	24,452	19,480	15,221	17,318	20,307	20,470	18,538	16,514	16,234	11,328	18,216
38	1966	11,274	13,276	15,014	16,342	17,411	13,269	15,164	13,703	15,620	18,135	16,198	13,551	11,569	10,619	14,491
39	1967	10,096	12,915	16,328	20,342	21,521	16,569	13,953	12,300	16,923	23,376	19,817	14,650	13,906	11,126	16,338
40	1968	11,515	14,819	15,447	19,442	18,727	18,035	10,680	9,075	15,890	20,126	17,258	14,920	14,369	13,620	15,771

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Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021
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A		B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW - Surplus Deficit		Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
41	1969	13,147	16,999	17,386	22,142	21,463	16,671	19,656	19,792	20,879	20,150	17,430	13,532	12,773	11,065	17,490
42	1970	10,664	13,847	13,929	17,429	19,307	13,685	10,761	9,351	17,356	22,044	13,453	12,318	11,801	10,801	14,517
43	1971	10,048	13,280	14,610	22,751	24,504	19,490	17,689	17,755	21,653	24,667	21,264	16,942	16,914	11,694	18,180
44	1972	11,656	14,623	16,114	23,012	21,771	23,707	21,546	16,996	21,214	24,764	21,300	17,284	17,553	12,173	18,908
45	1973	12,027	13,913	15,797	16,340	15,110	11,905	11,733	8,111	14,065	14,393	11,978	11,202	9,999	9,904	12,988
46	1974	9,763	14,047	17,877	26,706	24,956	21,664	19,504	20,045	20,548	24,687	23,497	17,517	17,679	11,976	19,398
47	1975	10,565	13,114	14,620	17,819	18,231	16,660	12,526	12,699	17,589	22,967	21,691	14,870	14,874	12,122	16,063
48	1976	13,338	17,629	22,461	22,705	21,715	18,510	18,458	17,752	21,010	20,648	20,745	19,115	20,473	15,145	19,315
49	1977	11,697	12,631	13,503	12,716	13,122	10,418	9,234	8,166	11,866	11,709	10,999	11,160	10,465	9,136	11,438
50	1978	9,715	11,942	15,639	16,669	14,269	16,036	15,953	14,909	18,367	18,637	18,317	12,808	12,220	13,408	15,086
51	1979	11,596	13,420	13,198	15,194	13,398	14,460	11,897	11,289	18,200	15,630	12,075	10,863	10,642	10,574	13,346
52	1980	10,272	12,323	12,414	15,482	12,963	12,183	12,001	16,307	20,926	20,817	14,880	11,352	11,131	10,645	14,028
53	1981	10,100	13,795	19,209	20,159	20,797	13,117	10,015	11,258	16,730	22,389	18,607	15,979	15,826	11,308	16,040
54	1982	10,711	14,255	15,832	19,834	22,944	22,135	17,329	15,085	19,605	22,330	22,288	16,333	16,854	13,141	17,965
55	1983	12,868	14,628	17,016	21,219	19,524	21,462	16,002	14,441	17,907	19,354	20,896	16,363	15,137	11,764	17,303
56	1984	11,268	18,090	17,195	20,822	19,240	18,123	15,603	16,181	17,648	22,493	19,735	15,459	13,420	11,929	17,222
57	1985	11,524	14,978	15,074	16,162	15,522	13,049	14,463	14,612	17,614	15,596	12,580	10,481	10,138	10,594	13,949
58	1986	11,787	15,988	15,348	18,949	20,048	21,260	18,746	16,596	17,203	19,825	14,111	12,232	11,360	10,388	16,167
59	1987	10,051	14,264	15,313	14,930	13,304	14,090	11,914	13,953	17,656	14,477	11,132	10,293	9,847	9,559	13,150
60	1988	9,258	12,083	12,665	11,856	10,922	11,276	10,112	12,033	13,545	14,432	13,517	11,234	10,603	10,109	11,810
61	1989	9,396	13,665	14,111	13,673	10,385	14,349	14,812	18,422	17,301	15,217	13,808	11,089	10,854	10,222	13,326
62	1990	9,956	14,279	16,874	18,821	19,331	15,857	14,187	16,476	16,130	19,968	18,454	14,973	13,233	10,351	15,765
63	1991	10,050	18,187	17,400	19,502	21,265	16,649	15,733	13,456	17,196	18,833	20,382	16,236	14,939	10,129	16,622
64	1992	10,130	13,167	12,327	14,233	13,333	13,036	11,334	10,893	15,088	12,583	10,873	10,491	10,340	9,492	12,145
65	1993	8,878	12,374	12,672	11,650	9,988	12,367	12,882	10,060	19,108	17,290	14,456	12,729	12,319	11,008	12,836
66	1994	9,737	12,662	13,060	12,038	12,039	11,885	11,519	13,466	15,303	13,494	12,212	10,634	10,119	10,082	12,114
67	1995	9,540	12,419	13,792	15,094	15,648	17,147	12,800	10,260	17,269	21,072	15,367	12,897	12,011	11,142	14,364
68	1996	12,451	19,598	24,415	25,559	25,285	22,531	17,457	20,557	19,535	21,431	20,383	15,779	13,161	11,101	19,617
69	1997	10,846	14,443	17,445	25,062	25,081	21,917	19,571	21,540	22,920	24,513	21,559	16,360	17,349	13,524	19,529
70	1998	16,559	16,415	15,556	17,747	18,284	14,871	12,038	11,829	19,986	21,277	17,356	15,283	13,478	11,038	16,277
71	1999	10,347	12,919	16,694	22,425	20,674	21,562	16,335	17,099	17,787	21,898	21,966	18,379	18,091	11,102	17,690
72	2000	10,518	17,894	18,509	18,770	17,272	16,217	17,178	18,632	17,426	15,018	16,111	13,653	11,235	10,084	15,669
73	2001	9,981	12,278	13,166	12,141	12,508	10,608	9,535	8,387	12,044	11,810	11,322	11,076	10,102	9,303	11,221
74	2002	9,345	11,229	14,027	13,577	12,528	12,441	13,431	16,612	16,691	21,026	19,025	12,599	12,169	10,409	13,981
75	2003	9,675	12,768	12,499	13,711	13,507	15,644	12,806	13,573	14,613	18,730	12,286	10,115	10,239	9,683	13,030
76	2004	9,978	13,689	14,938	14,854	13,603	12,211	12,015	12,264	14,328	16,028	12,928	10,186	11,476	10,846	13,027
77	2005	11,350	14,154	16,517	16,477	17,028	12,618	9,787	9,955	14,491	15,397	13,990	11,717	10,482	10,169	13,580
78	2006	9,309	14,044	14,961	20,079	20,756	15,177	18,830	17,403	20,461	20,661	15,186	11,349	10,567	9,876	15,758
79	2007	9,505	14,404	15,364	18,447	15,888	18,721	16,266	14,033	16,899	16,893	15,511	11,358	10,351	10,162	14,813
80	2008	9,319	12,658	13,180	15,590	13,548	13,559	11,668	9,652	18,127	22,959	18,147	12,882	12,909	10,694	14,284

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Table 6.1.1
4(h)(10)(C) Power Purchase Amounts By Water Year
Fiscal Year 2022

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr	May	Jun	Jul	Ag1	Ag2	Sep	Avg
1	1929	1049	546	1495	2037	1472	1445	1716	2847	3517	9	1244	209	0	0	1271
2	1930	1176	1050	2093	3161	1394	2225	1333	4832	2219	2170	-94	316	-27	-78	1546
3	1931	997	365	1977	3325	1030	922	2054	3142	2217	1353	0	0	0	0	1235
4	1932	729	488	1635	2051	1631	-59	0	0	0	0	0	-80	0	491	575
5	1933	1121	798	0	0	0	0	0	1442	187	0	0	0	0	383	267
6	1934	388	0	0	0	0	0	0	0	0	-492	694	202	-71	0	57
7	1935	979	1526	1174	0	0	4	309	3542	457	570	-211	0	0	875	607
8	1936	1205	559	1515	2882	2621	913	1901	0	0	0	0	11	0	698	941
9	1937	1278	240	1508	3272	3013	1924	1750	2810	2196	398	319	386	-252	-253	1347
10	1938	726	230	1031	0	0	0	0	0	0	0	-8	459	-85	-82	176
11	1939	1026	797	1865	868	21	838	940	879	200	868	-72	0	0	527	658
12	1940	1253	281	1516	61	465	0	0	773	948	1074	762	706	0	0	593
13	1941	919	443	751	2687	1405	1268	325	4102	1731	1610	293	0	0	0	1108
14	1942	445	0	0	0	0	3350	1878	1696	1797	0	0	0	0	-379	591
15	1943	961	864	659	0	0	0	0	0	0	0	0	0	0	808	275
16	1944	1550	564	1792	2179	684	1928	2391	3340	3189	1976	986	-73	-6	0	1479
17	1945	602	94	1505	2806	2667	2424	1228	2851	987	0	471	-101	-256	-272	1089
18	1946	949	611	996	0	0	0	0	0	0	0	0	0	0	487	255
19	1947	1445	0	0	0	0	0	0	656	0	0	0	0	0	359	179
20	1948	0	0	0	0	0	0	185	0	0	0	0	0	0	162	21
21	1949	788	0	1195	0	355	0	0	0	0	0	240	745	-28	-123	235
22	1950	1174	843	527	0	0	0	0	1322	0	0	0	0	0	424	303
23	1951	4	0	0	0	0	0	0	0	0	0	0	0	0	458	38
24	1952	0	0	0	0	0	0	0	0	0	0	0	0	0	845	69
25	1953	1536	276	1583	916	0	588	2201	2403	494	0	0	0	0	333	674
26	1954	1077	0	0	0	0	0	0	263	0	0	0	0	0	0	102
27	1955	474	0	0	1188	260	1740	573	2327	969	0	0	0	0	450	547
28	1956	827	0	0	0	0	0	0	0	0	0	0	0	0	578	117

Table 6.1.1
4(h)(10)(C) Power Purchase Amounts By Water Year
Fiscal Year 2022

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Ap1	Ap2	May	Jun	Jul	Ag1	Ag2	Sep	Avg	
29	1957	772	0	0	0	0	0	0	0	0	0	-14	-86	579	109	
30	1958	1479	515	1137	0	0	0	1009	0	0	0	-89	-57	-63	453	331
31	1959	1266	0	0	0	0	0	0	0	0	0	0	0	0	0	108
32	1960	0	0	0	0	0	0	0	201	0	-455	0	0	576	26	
33	1961	1056	0	339	0	0	0	838	0	0	-299	-142	0	527	165	
34	1962	1728	381	453	0	0	1116	0	0	0	-120	-68	0	496	339	
35	1963	845	0	0	0	0	710	1073	1551	742	0	0	0	53	307	
36	1964	1162	634	385	949	0	1108	0	1543	0	0	0	0	0	420	
37	1965	42	0	0	0	0	0	0	0	0	0	0	0	412	37	
38	1966	744	419	69	0	0	587	0	589	1274	0	0	0	583	334	
39	1967	1378	629	0	0	0	0	1241	314	0	0	0	0	280	269	
40	1968	917	0	0	0	0	0	1667	2105	962	0	0	0	0	314	
41	1969	0	0	0	0	0	0	0	0	0	-313	0	0	565	20	
42	1970	1237	0	988	0	0	214	1626	2300	0	0	10	-91	-16	512	407
43	1971	1437	629	701	0	0	0	0	0	0	0	0	0	208	250	
44	1972	769	0	0	0	0	0	0	0	0	0	0	0	0	65	
45	1973	387	0	234	0	0	973	1298	3053	1906	1146	658	499	-41	-142	633
46	1974	1085	281	0	0	0	0	0	0	0	0	0	0	0	115	
47	1975	1240	522	993	0	0	0	829	998	160	0	0	0	0	321	
48	1976	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
49	1977	373	541	1314	1582	421	2174	2197	3170	2601	2242	1043	-152	-106	0	1242
50	1978	926	215	180	0	436	484	0	835	0	0	0	-31	0	0	219
51	1979	135	684	1564	869	411	51	0	3693	0	632	668	407	-14	-86	580
52	1980	899	1098	2018	1201	979	1334	228	1226	0	0	-72	172	-212	508	722
53	1981	1197	34	0	0	0	467	1701	1734	103	0	0	0	92	302	
54	1982	1175	0	8	0	0	0	0	0	0	0	0	0	0	100	
55	1983	0	0	0	0	0	0	0	280	0	0	0	0	35	14	
56	1984	831	0	0	0	0	0	0	0	0	0	0	0	0	70	

Table 6.1.1
4(h)(10)(C) Power Purchase Amounts By Water Year
Fiscal Year 2022

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr	May	Jun	Jul	Aug	Aug	Sep	Avg	
57	1985	788	0	148	0	0	589	0	373	90	476	453	830	0	-35	261
58	1986	325	0	0	0	0	0	0	1093	38	0	0	0	-122	755	132
59	1987	1567	55	0	614	915	-42	903	298	0	631	1280	741	0	51	501
60	1988	1338	956	1993	3666	1422	1723	1216	3513	2203	1506	-194	368	-68	-121	1419
61	1989	1117	-31	1044	1915	2073	0	0	0	0	302	-138	443	0	0	534
62	1990	1119	697	0	0	0	0	0	985	731	0	-86	0	0	731	308
63	1991	1579	0	0	0	0	0	0	462	63	0	0	0	0	897	232
64	1992	1161	373	2030	989	850	3	1108	1388	874	1491	1095	743	-74	-114	861
65	1993	1193	347	1696	2631	2539	714	750	2795	0	0	0	-161	0	0	892
66	1994	1190	668	1401	3316	788	1493	998	2780	1110	1804	304	363	0	0	1182
67	1995	1209	1063	1113	1546	0	0	0	4371	229	0	0	0	0	219	633
68	1996	81	0	0	0	0	0	0	0	0	0	0	0	0	493	47
69	1997	1126	0	0	0	0	0	0	0	0	0	0	0	0	0	96
70	1998	0	0	165	0	0	0	1178	1723	0	0	0	0	0	496	174
71	1999	1331	1015	0	0	0	0	0	0	181	0	0	0	0	509	254
72	2000	1315	0	0	0	0	0	0	0	55	889	-47	0	-190	965	256
73	2001	1416	619	1465	1642	671	1659	2422	3268	3037	2315	867	-85	-151	0	1373
74	2002	1149	407	900	1624	1591	1261	0	0	179	0	0	-140	-49	700	639
75	2003	1340	177	1534	1760	524	0	185	202	1599	0	489	852	0	0	677
76	2004	1209	121	231	1433	0	1114	0	3216	1821	295	212	922	0	598	763
77	2005	512	0	0	0	0	123	1671	2313	1480	195	0	0	0	730	419
78	2006	1796	0	191	0	0	0	0	0	0	0	-147	87	-110	1024	239
79	2007	1662	-259	153	0	0	0	0	171	229	0	-217	308	-126	1240	250
80	2008	1568	0	1247	0	293	124	745	2606	0	0	0	-212	0	567	447
81	Average	936	292	631	665	387	469	520	1199	541	293	119	105	-27	276	460
82	Median	1067	108	211	0	0	0	0	715	0	0	0	0	0	185	307

Table 6.1.2
4(h)(10)(C) Power Purchase Amounts By Water Year
Fiscal Year 2023

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr	May	Jun	Jul	Ag1	Ag2	Sep	Avg
1	1929	1048	545	1495	2036	1475	1429	1713	2896	3519	0	1253	195	0	0	1271
2	1930	1219	1080	2084	3159	1317	2242	1336	4832	2257	2160	-55	301	0	-87	1552
3	1931	1001	364	1976	3225	1145	968	2073	3141	2226	1336	0	0	0	0	1240
4	1932	728	487	1634	2066	1278	-93	0	0	0	0	0	-80	0	490	545
5	1933	1120	737	0	0	0	0	0	1492	81	0	0	0	0	382	255
6	1934	387	0	0	0	0	0	0	0	0	-496	711	190	-82	0	57
7	1935	1094	1462	1173	0	0	55	333	3566	450	507	-208	0	0	874	612
8	1936	1204	558	1513	2835	2713	932	1929	0	0	0	0	10	0	693	946
9	1937	1277	239	1507	3169	2985	1872	1899	2869	2283	412	322	373	-271	-280	1345
10	1938	780	263	994	0	0	0	0	0	0	0	-7	457	-92	-80	180
11	1939	1022	795	1846	866	19	866	955	896	148	806	-65	0	0	526	650
12	1940	1252	280	1514	0	780	0	0	847	955	1080	763	706	0	0	617
13	1941	918	530	749	2685	1217	1457	331	4101	1731	1603	292	0	0	0	1116
14	1942	443	0	0	0	0	3334	1884	1703	1777	0	0	0	0	-375	588
15	1943	962	863	657	0	0	0	0	0	0	0	0	0	0	806	275
16	1944	1549	562	1790	2177	682	1947	2398	3339	3189	1962	986	-77	-16	0	1478
17	1945	646	147	1503	2721	2672	2564	1262	2855	978	0	468	-131	-279	-361	1093
18	1946	1026	687	1005	0	0	0	0	0	0	0	0	0	0	485	269
19	1947	1443	0	0	0	0	0	0	681	0	0	0	0	0	357	180
20	1948	0	0	0	0	0	0	257	0	0	0	0	0	0	160	24
21	1949	787	0	1193	0	352	0	0	0	0	0	288	649	-97	-167	228
22	1950	1306	924	528	0	0	0	0	1449	0	0	0	0	0	422	326
23	1951	3	0	0	0	0	0	0	0	0	0	0	0	0	457	38
24	1952	0	0	0	0	0	0	0	0	0	0	0	0	0	849	70
25	1953	1535	275	1582	845	0	617	2203	2409	494	0	0	0	0	332	670
26	1954	1075	0	0	0	0	0	0	351	0	0	0	0	0	0	106
27	1955	473	0	0	1186	278	1640	516	2332	958	0	0	0	0	449	537
28	1956	826	0	0	0	0	0	0	0	0	0	0	0	0	577	117

Table 6.1.2
4(h)(10)(C) Power Purchase Amounts By Water Year
Fiscal Year 2023

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Ap1	Ap2	May	Jun	Jul	Ag1	Ag2	Sep	Avg
29	1957	771	0	0	0	0	0	527	0	0	0	-20	-39	617	135
30	1958	1478	513	1103	0	0	1083	0	0	0	-77	-37	-19	148	309
31	1959	1220	0	0	0	0	0	0	0	0	0	0	0	0	104
32	1960	0	0	0	0	0	0	0	182	0	-446	0	0	575	25
33	1961	1055	0	337	0	0	0	858	0	0	-267	0	0	617	182
34	1962	1727	380	451	0	1160	0	0	0	0	-118	-67	0	496	343
35	1963	844	0	0	0	764	1126	1551	737	0	0	0	0	52	313
36	1964	1161	633	383	947	1117	0	1536	0	0	0	0	0	0	420
37	1965	41	0	0	0	0	0	0	0	0	0	0	0	412	37
38	1966	742	417	67	0	618	0	611	1247	0	0	0	0	581	334
39	1967	1377	628	0	0	0	0	1251	274	0	0	0	0	279	266
40	1968	915	0	0	0	0	1695	2105	944	0	0	0	0	0	313
41	1969	0	0	0	0	0	0	0	0	0	0	0	0	564	46
42	1970	1236	0	986	0	253	1666	2306	0	0	7	-90	-16	510	412
43	1971	1435	627	699	0	0	0	0	0	0	0	0	0	206	250
44	1972	767	0	0	0	0	0	0	0	0	0	0	0	0	65
45	1973	385	0	232	0	994	1291	3043	1905	1105	683	477	-62	-226	624
46	1974	1158	277	0	0	0	0	0	0	0	0	0	0	0	121
47	1975	1239	520	991	0	0	898	1072	249	0	0	0	0	0	334
48	1976	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	1977	371	539	1313	1580	421	2189	2201	3180	2603	2242	1042	-165	-122	1242
50	1978	948	162	194	0	443	504	0	813	0	0	0	-116	0	216
51	1979	349	67	1394	49	582	0	646	1611	0	220	757	287	-16	388
52	1980	952	1109	2061	1198	976	1377	252	1252	0	0	-70	105	-222	738
53	1981	1195	32	0	0	0	545	1726	1767	146	0	0	0	91	314
54	1982	1174	0	6	0	0	0	107	0	0	0	0	0	0	105
55	1983	0	0	0	0	0	0	348	0	0	0	0	0	34	17
56	1984	829	0	0	0	0	0	0	0	0	0	0	0	0	70

Table 6.1.2
4(h)(10)(C) Power Purchase Amounts By Water Year
Fiscal Year 2023

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr	May	Jun	Jul	Ag1	Ag2	Sep	Avg
57	1985	786	0	146	0	0	610	0	369	0	424	485	829	0	-43	253
58	1986	310	0	0	0	0	0	0	1173	18	0	0	-15	-99	743	132
59	1987	1566	53	0	612	942	-31	944	347	0	637	1299	740	0	50	509
60	1988	1337	955	1968	3491	1507	1762	1251	3546	2204	1518	-173	358	-100	-120	1416
61	1989	1165	-83	1038	1791	2072	0	0	0	0	270	-127	445	0	0	521
62	1990	1139	695	0	0	0	0	0	1044	757	0	-87	0	0	730	314
63	1991	1578	0	0	0	0	0	0	587	82	0	0	0	0	896	239
64	1992	1160	370	1943	987	848	24	1114	1392	851	1489	1094	727	-87	-217	844
65	1993	1253	402	1676	2594	2540	764	862	2795	0	0	0	-159	0	0	906
66	1994	1249	672	1399	3201	904	1500	1036	2816	1094	1793	304	350	0	-19	1186
67	1995	1208	1074	1132	1544	0	0	0	4370	219	0	0	0	0	217	634
68	1996	79	0	0	0	0	0	0	0	0	0	0	0	0	491	47
69	1997	1124	0	0	0	0	0	0	0	0	0	0	0	0	0	95
70	1998	0	0	163	0	0	0	1229	1773	0	0	0	0	0	494	178
71	1999	1329	1013	0	0	0	0	0	0	124	0	0	0	0	508	248
72	2000	1314	0	0	0	0	0	0	0	41	884	-47	0	-202	963	253
73	2001	1414	618	1464	1640	669	1679	2426	3268	3035	2310	865	-99	-161	0	1372
74	2002	1200	456	899	1527	1555	1296	29	0	175	0	0	-140	-48	699	640
75	2003	1339	175	1500	1661	636	0	189	221	1564	0	488	850	0	0	671
76	2004	1280	226	180	1432	0	1159	0	3268	1811	344	211	908	0	597	781
77	2005	510	0	0	0	0	160	1677	2326	1472	177	0	0	0	670	416
78	2006	1795	0	189	0	0	0	0	0	0	0	-149	74	-122	962	233
79	2007	1661	-196	151	0	0	0	0	170	157	0	-217	293	-136	1174	242
80	2008	1567	0	1141	0	291	146	768	2602	0	0	0	-213	0	565	440
81	Average	948	289	624	640	391	480	540	1197	537	285	128	99	-29	267	458
82	Median	1085	107	192	0	0	0	0	747	0	0	0	0	0	154	314

7. FEDERAL TIER 1 SYSTEM FIRM CRITICAL OUTPUT 101

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Table 7.1.1
Federal Tier 1 System Firm Critical Output Projection - 2-Year Average
RHWM Process for BP-22 Rate Period
S210-RC-20200716-093322

A

B

C

D

1.	TISFCO Projections Energy in aMW	2022	2023	Average
2.	Total Federal System Hydro Generation <i>(TRM Table 3.1)</i>	6,294	6,295	6,294
3.	Total Designated Non-Federally Owned Resources <i>(TRM Table 3.2)</i>	1,154	1,018	1,086
4.	Total Designated BPA Contract Purchases <i>(TRM Table 3.3)</i>	136	136	136
5.	Total Designated System Obligations <i>(TRM Table 3.4)</i>	-851	-848	-849.58
6.	Federal Tier 1 System Firm Critical Output (sum of Lines 2-5)	6,733	6,601	6,667

Table 7.1.2
Federal System Hydro Generation for use in the T1SFCO Calculation
RHWM Process for BP-22 Rate Period
TRM Table 3.1
S210-RC-20200716-093322

A		B	C	D
1.	Regulated Hydro	2022	2023	Average
2.	Albeni Falls	22.0	23.4	22.7
3.	Bonneville	371.5	371.6	371.6
4.	Chief Joseph	1,109.2	1,109.2	1,109.2
5.	Dworshak	140.2	140.2	140.2
6.	Grand Coulee	1,928.3	1,928.3	1,928.3
7.	Hungry Horse	73.5	73.5	73.5
8.	Ice Harbor	107.6	107.6	107.6
9.	John Day	694.7	695.2	694.9
10.	Libby	165.3	165.3	165.3
11.	Little Goose	109.8	109.8	109.8
12.	Lower Granite	106.8	106.7	106.8
13.	Lower Monumental	108.9	108.9	108.9
14.	McNary	414.6	414.6	414.6
15.	The Dalles	592.6	592.3	592.5

Table 7.1.2
Federal System Hydro Generation for use in the T1SFCO Calculation
RHWM Process for BP-22 Rate Period
TRM Table 3.1
S210-RC-20200716-093322

A	B	C	D	
16.	Independent Hydro	2022	2023	Average
17.	Anderson Ranch	12.2	12.2	12.2
18.	Big Cliff	10.0	10.0	10.0
19.	Black Canyon	6.2	6.2	6.2
20.	Boise River Diversion	1.2	1.2	1.2
21.	Chandler	6.1	6.1	6.1
22.	Cougar	19.1	19.1	19.1
23.	Cowlitz Falls	26.5	26.5	26.5
24.	Detroit	41.8	41.8	41.8
25.	Dexter	9.3	9.3	9.3
26.	Foster	12.4	12.4	12.4
27.	Green Peter	27.2	27.2	27.2
28.	Green Springs - USBR	7.3	7.3	7.3
29.	Hills Creek	17.9	17.9	17.9
30.	<i>Idaho Falls - City Plant (expires 9/30/2016)</i>			
31.	<i>Idaho Falls - Lower Plants #1 & #2 (expires 9/30/2016)</i>			
32.	<i>Idaho Falls - Upper Plant (expires 9/30/2016)</i>			
33.	Lookout Point	36.2	36.2	36.2
34.	Lost Creek	30.1	30.1	30.1
35.	Minidoka	10.7	10.7	10.7
36.	Palisades	67.4	67.4	67.4
37.	Roza	6.9	6.9	6.9
38.	Total Tier 1 Federal System Hydro Generation	6,293.6	6,295.2	6,294.4

^{1/} Reference Tiered Rate Methodology, November 2008. TRM-12-A-02, Table 3.1, page 121.

Table 7.1.3
Designated Non-Federally Owned Resources for use in the T1SFCO Calculation
RHWM Process for BP-22 Rate Period
TRM Table 3.2
S210-RC-20200716-093322

A	B	C	D	
1.	Project	2022	2023	Average
2.	Ashland Solar Project (<i>expires 5/31/2020</i>)			
3.	Columbia Generating Station	1,116.0	993.7	1,054.8
4.	Condon Wind Project (<i>expires 9/30/2022</i>)	11.7		11.7
5.	Dworshak/Clearwater Small Hydropower	2.6	2.6	2.6
6.	Foote Creek 1 (<i>early termination in 2019</i>)			
7.	Foote Creek 2 (<i>expired 2014</i>)			
8.	Foote Creek 4 (<i>Acquisition Expires 10/1/2020</i>)			
9.	<i>Fourmile Hill Geothermal (Not included)</i>	0.0	0.0	0.0
10.	<i>Georgia-Pacific Paper (Wauna) (Acquisition Expired 4/5/2016)</i>			
11.	Klondike I (<i>expires 4/2022</i>)	2.9		2.9
12.	Stateline Wind Project (<i>expires 12/2026</i>)	21.2	21.2	21.2
13.	White Bluffs Solar (<i>expired in 1996</i>)			
14.	Total Designated Non-Federally Owned Resources	1,154.4	1,017.5	1,086.0

^{1/} Reference Tiered Rate Methodology, November 2008. TRM-12-A-02, Table 3.2, page 122.

Table 7.1.4
Designated BPA Contract Purchases for use in the T1SFCO Calculation
RHWM Process for BP-22 Rate Period
TRM Table 3.3
S210-RC-20200716-093322

A	B	C	D	E	
1.	Contract Purchases	Contract #	2022	2023	Average
2.	Priest Rapids CER for Canada	97PB-10099	29.1	29.1	29.1
3.	Rock Island #1 CER for Canada	97PB-10102	17.1	17.1	17.1
4.	Rock Reach CER for Canada	97PB-10103	37.1	37.1	37.1
5.	Wanapum CER for Canada	97PB-10100	27.9	27.9	27.9
6.	Wells CER for Canada	97PB-10101	24.0	24.0	24.0
7.	BCHP to BPA PwrS	99PB-22685	1.0	1.0	1.0
8.	BCHP to BPA LCA <i>(settled financially)</i>	99PB-22685			
9.	PASA to BPA Pk Repl <i>(expired 4/30/2015)</i>	94BP-93658			
10.	PASA to BPA S/N/X <i>(expired 4/30/2015)</i>	94BP-93658			
11.	PASA to BPA Xchg Nrg <i>(expired 4/30/2015)</i>	94BP-93658			
12.	RVSD to BPA Pk Repl <i>(expired 4/30/2016)</i>	94BP-93958			
13.	RVSD to BPA Seas Xchg <i>(expired 4/30/2016)</i>	94BP-93958			
14.	RVSD to BPA Xchg Nrg <i>(expired 4/30/2016)</i>	94BP-93958			
15.	PPL to BPA SNX (Spring Return) <i>(expired 6/1/2014)</i>	94BP-94332			
16.	PPL to BPA SPX (Summer Return) <i>(expired 6/1/2014)</i>	94BP-94332			
17.	Total Designated BPA Contract Purchases		136.3	136.3	136.3

^{1/} Reference Tiered Rate Methodology, November 2008. TRM-12-A-02, Table 3.3, page 123.

Table 7.1.5
Designated BPA System Obligations for use in the T1SFCO Calculation
RHWM Process for BP-22 Rate Period
TRM Table 3.4 *(Negative numbers indicate obligations)*
S210-RC-20200716-093322

A	B	C	D	E	
1.	System Obligation	Contract #	2022	2023	Average
2.	BPA to BRCJ Chief Joseph	14-03-17506; 14-03-49151	-8.7	-8.7	-8.7
3.	BPA to BRCB Columbia Basin Project	Ibp-4512; 14-03-001-12160	-137.9	-137.9	-137.9
4.	BPA to BRCC Crooked River Project	14-03-73152	-0.7	-0.7	-0.7
5.	BPA to BROR Owyhee Project	EW-78-Y-83-00019	-1.4	-1.4	-1.4
6.	BPA to BRRP Rathdrum Prairie Project	14-03-49151	-0.8	-0.8	-0.8
7.	BPA to BRSID Southern Idaho Projects	EW-78-Y-83-00019	-19.9	-19.9	-19.9
8.	BPA to BRSIN Spokane Indian Develop.	14-03-49151	-0.3	-0.3	-0.3
9.	BPA to BRVS Spokane Valley	14-03-63656	-0.7	-0.7	-0.7
10.	BPA to BRTD The Dallas Reclamation Project	14-03-32210	-1.9	-1.9	-1.9
11.	BPA to BRTV Tualatin Project	14-03-49151	-0.8	-0.8	-0.8
12.	BPA to BRUB Umatilla Basin Project	10GS-75345	-2.1	-2.1	-2.1
13.	BPA to BRYK Yakima Project	DE-MS79-88BP92591	-1.7	-1.7	-1.7
14.	BPA to BCHP LCA <i>(settled financially)</i>	99PB-22685	0.0	0.0	0.0
15.	BPA to BCHA Can Ent	99EO-40003	-454.3	-454.3	-454.3
16.	BPA to BCHA NTSA	12PG-10002	-10.2	-10.3	-10.3

Table 7.1.5
Designated BPA System Obligations for use in the T1SFCO Calculation
RHWM Process for BP-22 Rate Period
TRM Table 3.4 *(Negative numbers indicate obligations)*
S210-RC-20200716-093322

A	B	C	D	E	
1.	System Obligation	Contract #	2022	2023	Average
17.	BPA to BHEC 2012PSC <i>(expired 6/30/2017)</i>	97PB-10051			
18.	BPA to PASA C/N/X <i>(expired 4/30/2015)</i>	94BP-93658			
19.	BPA to PASA S/N/X <i>(expired 4/30/2015)</i>	94BP-93658			
20.	BPA to RVSD C/N/X <i>(expired 4/30/2016)</i>	94BP-93958			
21.	BPA to RVSD Seas Xchg <i>(expired 4/30/2016)</i>	94BP-93958			
22.	Federal Intertie Losses <i>(Calculated: 3.0% of Intertie Sales Table 2.12.5 lines 18-21)</i>	n/a	0.0	0.0	0.0
23.	BPA to AVWP WP3 S <i>(expires 6/30/2019)</i>	85BP-92186			
24.	BPA to PPL SNX (Spring Delivery) <i>(expired 6/1/2014)</i>	94BP-94332			
25.	BPA to PPL SPX (Summer Delivery) <i>(expired 6/1/2014)</i>	94BP-94332			
26.	BPA to PSE WP3 S <i>(expired 6/30/2017)</i>	85BP-92185			
27.	BPA to PSE Upper Baker 2	09PB-12126	-1.3	-1.3	-1.3
28.	BPAP to BPAT <i>(Dittmer/Substation Service)</i>	09PB-12128	-9.4	-9.4	-9.4
29.	Federal Power Trans. Losses	n/a	-227.9	-223.9	-225.9
30.	Slice Transmission Loss Returns	n/a	28.9	28.4	28.6
31.	Total Designated System Obligations		-851.3	-847.9	-849.6

^{1/} Reference Tiered Rate Methodology, November 2008. TRM-12-A-02, Table 3.4, page 124-125.

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8. HYDRO REGULATION ASSUMPTIONS 111

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STUDY NUMBER: 20_RateCase22_FP & 20_RateCase23_FP

Requested By: BPA Rates Process

Due Date: April 13, 2021

Purpose of Study: This is an 80-year continuous study of the system operation for the Final Proposal BP-22 Rate Case for FY 2022 and FY 2023.

Study Directories: **DOP Step:** X:\RATES\20_RateCase22_Final\DOP22 or
\\Bonfire\model\TREATY\DOP22_Ratecase\TSR
AER Step: X:\RATES\20_RateCase22_Final\AER &
X:\RATES\20_RateCase23_Final\AER

OPER Step: X:\RATES\20_RateCase22_Final\OPER_final &
X:\RATES\20_RateCase23_Final\OPER_final

Name of Regulator: Jennie Tran

The Rate Case HYDSIM studies are run in three steps or layers. The first step determines the Canadian Treaty operations; the second step includes those Treaty operations and adds a layer that determines the U.S. non-federal operations and an approximation of the federal operations; and the third step includes those operations and adds a layer of fine-tuning to determine the federal operations.

There are two separate 80-year studies—one for Fiscal Year (FY) 2022 (October 2021 through September 2022) and one for FY 2023 (October 2022 through September 2023). For simplicity the two 80-year studies are often referred to as a singular study, and the three steps are often referred to as a singular step. However, in reality there is a Detailed Operating Plan (DOP) Step for each one, an Actual Energy Regulation (AER) Step for each one, and an operational (OPER) Step for each one, which is a total of six studies, and these are collectively referred to as the HYDSIM study for the Rate Case.

This Rate Case study reflect the water supply forecast developed by the Corps of Engineers (COE) methodology instead of synthetic water supply forecast supplied by Kuehl Moffit.

DOP STEP

- This Step is used to determine the Canadian Treaty project elevations following procedures from the Columbia River Treaty.
- Since the official DOP studies for Treaty storage operations are typically completed just 1-2 months prior to the operating year, they are not available in time for the rate case study. Therefore, surrogate DOP studies are used to reflect expected study results and determine the Canadian Treaty storage operations for the AER step.
- The surrogate DOP22 study starts with the official Assured Operating Plans (AOP22): AOP22 study would be used for AOP20, AOP21, AOP23, and AOP24. The surrogate DOP converts the AOP from perfect-knowledge to forecast-based and from operating-year to fiscal-year, and includes all the data updates that are expected to be included in the official DOP studies. These studies were run by BPA on February 4, 2021 for this BP-22 Final Proposal (FP) Rate Case.
- These updates include plant data from the Pacific Northwest Coordination Agreement (PNCA) 2020 data submittal for OY21 except Grand Coulee pumping schedule from the PNCA 2021 data

submittal for OY22. This continuous 80-year surrogate DOP study begins on October 1, 1928, and ends on September 30, 2008.

AER STEP

- This AER Step is used to determine the project minimum storage elevations using load equal to the PNCA 2020 operating year (OY20) Firm Energy Load Carrying Capability (FELCC) and unlimited secondary market. Minimum elevations from the AER Step are input into the OPER Step.
- This is a **continuous** 80-year study based on the PNCA OY21 data submittal.
- The Coordinated System generation does not include the Tacoma projects, PacifiCorp projects, Brownlee, Oxbow, and Hells Canyon.
- **Streamflow Data** are from “Modified Streamflows 2010 Level of Irrigation”. They contain estimated irrigation depletions from the year 2010. (See “2010 Level Modified Streamflow: Seasonal Volumes and Statistics, 1928-2008” and “2010 Level Modified Streamflow, 1928-2008” both dated August 2011.) Adjustments to these 2010 level modified streamflows are made in this study according to the Bureau of Reclamation’s updated **Grand Coulee pumping schedule** for the Columbia Basin Project in the PNCA OY21 data submittal.
- **Plant Data** are from the PNCA OY21 data submittal.
- **Loads** are from the FELCC OY21 Critical Period study run by the Northwest Power Pool (NWPP) for the PNCA. The NWPP study has a one-year critical period (September 1, 1936 through April 30, 1937). Thus, only one year of FELCC values are used for all water conditions. This study reflects coordination between PNCA parties in meeting PNCA FELCC. Therefore, generation from projects owned by non-PNCA parties (Brownlee, Oxbow, Hells Canyon, and Canadian projects) is not used to meet PNCA FELCC in these studies. Also, in this study the generation from Tacoma and PacifiCorp projects is not included because they are not in the PNCA Coordinated System FELCC computation. The PNCA hydro FELCC includes Hydro-Independent generation from 1936-37, so BPA revises the FELCC to reflect the Hydro-Independent generation for each of the 80 years and uses this modified FELCC as the hydro-residual load required for this study. There is no limit assumed in the secondary market, which is consistent with PNCA studies.
- **Unit Outages** for all projects are from the PNCA OY21 data.
- **Initial Contents** for all projects came from the September 30, 1929, storage ending content from the final Rates study for 2007 (X:\RATES\06Rate07-09\04Rate_07\AER), except Mica, Arrow, and Duncan are initialized to the content from the surrogate DOP studies ([\\Bonfire\model\TREATY\DOP22_Ratecase\TSR\](#)). The initial conditions do not significantly affect the study results since this is a continuous study.
- **Critical Rule Curves (CRCs)** are in accordance with PNCA OY21 adopted system critical rule curves.
 - **Flood Control Rule Curves**, also known as Upper Rule Curves (URCs), are the highest contents allowed for each reservoir and supersede all other reservoir elevation and content operating objectives. The curves are based on the Corps of Engineers water supply forecast methodology (not actuals); shifting some of Dworshak’s requirement to Grand Coulee when possible; a ratio of 3.6/4.08 Arrow/Mica split; and variable flood control (VarQ) at Hungry Horse and Libby. They were provided by the Corps of Engineers to BPA in October 2, 2019 for 1929-2008 and for Columbia River System Operations “Preferred Alternative” that was presented in the 2020 joint-agency environmental impact study (available online at <https://www.nwd.usace.army.mil/CRSO/Final-EIS/>). These flood control curves include the variable flood control in December at Libby. The Mica, Arrow, and Duncan flood control requirements are from the surrogate DOP22 study. The flood control curves for Grand Coulee are adjusted for the amount of storage capability available below the URC on April 30 each year for Mica, Arrow, and Duncan to more closely reflect the methodology used in real-time operations.

- **Variable Energy Content Curves (VECCs)** are calculated using Power Discharge Requirements (PDRs), distribution factors, forecast errors from the PNCA OY21 planning process, and the Corps of Engineers water supply forecast data. The Grand Coulee Energy Content Curve (ECC) lower limits are 1225 feet (441.5 ksfd) January through April, and 1240 feet (884.4 ksfd) in May. The unit 'ksfd' is a volume equal to 1000 cfs for 24 hours. The Canadian projects' surrogate DOP22 VECCs are based on forecasts, the ratio of 3.6/4.08 Arrow/Mica split, non-shifted flood control, and VarQ flood control at Hungry Horse.

Project Specific Data:

- **Mica, Duncan, and Arrow** are fixed to the 80-year surrogate DOP22 study.
- **Libby** operates to meet Coordinated System FELCC in October and November with a minimum flow of 4,000 cfs. Libby has a maximum outflow of 4,000 cfs January through April and 25,000 cfs May through August. The 25,000 cfs May through August maximum outflow is powerhouse hydraulic capacity without spill, but a higher outflow including spill can be provided to maintain the required VarQ flood control space. Libby has a minimum outflow of 6,000 cfs May 15 through September, and target outflows of 6,000 cfs in September and 4,000 cfs in October. Libby can be drafted to meet FELCC in October and November as long as it does not draft below the December Variable URC. When the December forecast at Libby for April through August is less than 5500 thousand acre feet (KAF), the flood control at Libby in December is 2426.7 feet (1805.8 ksfd). When the forecast is greater than 5900 KAF, the flood control in December is 2411.0 feet (1501.9 ksfd). The flood control data is interpolated between 1805.8 ksfd and 1501.9 ksfd when the forecast is between 5500 and 5900 KAF. January-April, Libby operates to minimum flow (4,000 cfs) or at the flood control URC in attempt to reach the flood control URC on April 15 (as a surrogate for the Biological Opinion's (BiOp) April 10 objective). During May and June Libby operates for Sturgeon and during May 15 through September 30 it operates for Bull Trout. Sturgeon and Bull Trout flow requirements May through August are based on the May final April-August COE water supply forecast at Libby and are summarized as follows from the PNCA OY21 Corps of Engineers data submittal based on the U.S. Fish and Wildlife Service BiOp dated February 18, 2006, where MAF is one million acre-feet and KAF is one thousand acre-feet of water volume.

<u>Libby May1 Apr-Aug</u> <u>Forecast Volume (MAF)</u>	<u>Sturgeon Flow Volume</u> <u>Provided from Libby (KAF)</u>
<4800	0
4800-5400	800
5400-6350	800-1120
6350-7400	1120-1200
7400-8500	1200
8500-8900	1200-1600
>8900	1600

<u>Libby May1 Apr-Aug</u> <u>Forecast Interval (MAF)</u>	<u>Bull Trout Minimum Flow</u> <u>May15-Aug31 (CFS)</u>
<4800	6000
4800-6000	7000
6000-6700	8000
>6700	9000

In years when the May 1 forecast of April through August volume at The Dalles is less than 72.2 MAF (the lowest 20th percentile), the August 31 draft limit is 2439 feet (2061.3 ksfd) and in years when the forecast is greater than or equal to 72.2 MAF, the August 31 draft limit is 2449 feet (2280.3 ksfd). Libby can draft below the August draft limit to meet the Bull Trout flow objective. The project attempts to operate along a computed straight line between the June 30 content and

August 31 draft limit to minimize occurrences of a second peak flow in the summer. The summer draft is then shaped to provide flat flows July through the first half of August where possible.

- **Kootenay Lake** is operated as necessary, up to free flow, to maintain the lake level below the International Joint Commission (IJC) rule curve and the calculated “allowable elevation at Queens Bay”. After August 31, the lake level may rise to elevation 1745.32 at the Queens Bay gage. This maximum elevation at Queens Bay is in effect through January 7. After January 7 the lake will be lowered to elevation 1744 on February 1, elevation 1742.4 on March 1, and 1739.32 on May 1. From June 1 through August 31, after the lake exceeds elevation 1739.32 feet at the Queens Bay gage, the lake shall be operated using the “allowable elevation” calculation to determine the Queens Bay maximum allowable elevation until the elevation at the Nelson gage drafts back to 1743.32 feet.
- **Hungry Horse** operates to meet the following minimum flow requirements at the project and at Columbia Falls as shown in the PNCA OY21 data submittal. The minimum flows are determined each month based on the January, February, and March forecasts of April-August streamflow volumes. The March forecast also determines the minimum flows for April through December.

<u>Hungry Horse</u> <u>Apr-Aug Forecast (KAF)</u>	<u>Hungry Horse</u> <u>Minimum Flow (CFS)</u>	<u>Columbia Falls</u> <u>Minimum Flow (CFS)</u>
<1190	400	3200
1190-1790	400-900	3200-3500
>1790	900	3500

Hungry Horse will draft to 3555.7 feet (1453.5 ksf) in October and November and 3549.2 feet (1376.8 ksf) in December for winter flood control. However, due to the minimum flow requirement at Columbia Falls, Hungry Horse often operates below these elevations in October through December. From January through March, Hungry Horse operates between the variable draft limits (VDLs), which assures a 75 percent chance of filling to April flood control elevation and the VarQ flood control elevation, except in periods when minimum flow requirements draft the project deeper. The VDLs are calculated using assumed inflows that are exceeded 75 percent of the time, the minimum outflow, and the requirement to be at flood control elevation on April 10. Hungry Horse operates to the draft limit of 3545 feet (1330.2 ksf) or VarQ flood control upper rule curve in April. In May and June, Hungry Horse operates on flood control when possible but drafts below flood control to meet minimum flows when necessary. January through April outflows are reshaped to reduce forced spill. In years when the May 1 April-August volume forecast for The Dalles is less than 72.2 MAF (20th percentile from the COE’s PNCA OY21 data submittal), the project operates along a computed straight line between the June 30 content and a September 30 draft limit of 3540.0 feet (1275.1 ksf) to minimize occurrences of a second peak flow in the summer. In years when the May 1 April-August volume forecast for The Dalles is greater than or equal to 72.2 MAF (20th percentile), the September 30 draft limit is 3550.0 feet (1386.7 ksf). The summer draft is then shaped to provide flat flows July through September where possible. The maximum discharge at Hungry Horse is 9,000 cfs during September through April 15, and 11,956 cfs during April 16 through August 31, unless the URC causes more discharge.

- **Albeni Falls** targets 2062 feet (559.1 ksf) from June through August, 2060 feet (465.7 ksf) in September, 2056 feet (279.0 ksf) in October, 2051 feet (57.6 ksf) November through March, 2056 feet (279.0 ksf) in April, and 2060 feet (465.7 ksf) in May.
- **Kerr** targets 2891 feet (488.6 ksf) in October, 2889.6 feet (401.5 ksf) in November, 2888 feet (302.8 ksf) in December, 2886.6 feet (217.1 ksf) in January, 2885.7 feet (162.3 ksf) in February, 2885.4 feet (144.1 ksf) in March, 2884.4 feet (83.8 ksf) on April 15, 2884.3 feet (77.8 ksf) on April 30, 2890 feet (426.3 ksf) in May, full at 2893 feet (614.7 ksf) June through September.

- Grand Coulee** operates to meet FELCC September through December subject to the draft limits of 1283 feet (2413.9 ksf) in September and October, 1275 feet (2102.4 ksf) in November, and 1270 feet (1915.1 ksf) in December. January through March, Grand Coulee can be drafted to the variable draft limits (VDLs) to support Chum flow and Vernita Bar minimum flow requirements. In all years, the calculated VDL has a lower limit of 1260 feet (1553.2 ksf) in January, 1250 feet (1208.8 ksf) in February, and 1240 feet (883.8 ksf) in March. Only during years identified for drum gate maintenance, the upper limit is 1270 feet (1915.1 ksf) in February, and 1250 feet (1208.8 ksf) in March. The VDL reflects the expected April 10th URC and storage needed for the appropriate Vernita Bar minimum flow and potential drum gate maintenance requirements. These VDLs are calculated using the following data: the regulated inflows from the Hydsim model which are exceeded 85 percent of the time, perfect knowledge of the minimum outflow, and the requirement to be at flood control elevation on April 10. On April 15, Grand Coulee operates to flood control. To support the McNary and Priest Rapids April 30 through May flow targets, Grand Coulee may be drafted to the lower of flood control or 1280 feet (2295.3 ksf). In June, Grand Coulee operates to 1288 feet (2615.3 ksf) or flood control elevations. Drum gate maintenance occurs in years when the Grand Coulee April flood control elevation (based on the final February 1 water supply forecast) is less than 1255 feet (1380.2 ksf). In those drum gate years, Coulee cannot exceed 1270 ft (1915.1 ksf) in February and 1255 feet (1380.2 ksf) from March-April. The drum gate maintenance is performed at least one time in a 3-year period, two times in a 5-year period, and three times in a 7-year period. When July 1 April-August final forecast volume runoff at The Dalles is less than 92 Maf, the BiOP draft limits are 1283 feet (2413.9 ksf) in July, 1280 feet (2295.3 ksf) in August 15, and 1278 feet (2217.5 ksf) in August 31. Otherwise, the draft limits are 1285 feet (2493 ksf) in July, 1282 feet (2374.4 ksf) in August 15, and 1280 feet (2295.3 ksf) in August 31. The Lake Roosevelt Incremental Storage Releases Program (LRISRP) requires Grand Coulee to draft an additional foot in non-drought years and 1.8 feet in drought years at the end of August. At-site minimum flow is equal to 30,000 cfs. Grand Coulee is subject to a draw down limit of 1.5 feet per day when Grand Coulee is above 1260 feet (1553.3 ksf), 1.3 feet per day when Grand Coulee is between 1260 feet (1553.3 ksf) and 1240 feet (884.4 ksf), and 1.0 feet per day when Grand Coulee is below 1240 feet (884.4 ksf). During the flow augmentation period, Grand Coulee will release no more water than necessary to meet the minimum flow requirements.
- Vernita Bar** minimum flows for December through May vary by water condition, with minimum flows established as the lower of either 68 percent of the larger of the October or November flow at Wanapum, or 70,000 cfs. Values less than 70,000 cfs are rounded to the nearest 5,000 cfs. The minimum protection level flow at Vernita Bar in any period will be no less than 36,000 cfs. These Vernita Bar flow requirements are modeled as requirements at Priest Rapids, and Grand Coulee will draft to meet them.
- Priest Rapids** has a flow augmentation target of 135,000 cfs for Steelhead April 10 through June 30. From April 1-9 the minimum flow for Priest Rapids is the same as the Vernita Bar minimum flow.
- Upper Snake** reservoirs and river reaches above Brownlee are not simulated in this study. Upper Snake operations are embedded in the Brownlee inflow data, as described in the 2010 Level Modified Streamflow documentation.
- Brownlee** operates to the fixed target elevations provided to BPA from the NWPP on October 11, 2013. They are 2059 feet (373.5 ksf) in August, 2045 feet (293.8 ksf) in September, 2053 feet (337.4 ksf) in October, 2069.8 feet (441.8 ksf) in December, 2059.7 feet (377.7 ksf) in January, 2075 feet (477.8 ksf) in June, and 2062 feet (391.5 ksf) in July and supports a minimum flow requirement of 6500 cfs at Hells Canyon. Brownlee drafts to support the flow objective at Hells Canyon of between 6500 to 13000 cfs in October, and between 8000 to 13000 cfs in November for Fall Chinook operation. In February through May, Brownlee operates to flood control unless drafted for Hells Canyon minimum flow requirement.
- Dworshak** is on minimum flow of 1,600 cfs or at flood control elevations in all periods with the exception of July-September. Dworshak's outflow is limited to 14,000 cfs in July-August except

when exceeded to meet the URC where the maximum flow is 25,000 cfs. During the July-August flow augmentation period, Dworshak will release no more water than necessary to meet the Lower Granite flow target, though the target is rarely met and instead Dworshak most often operates to target elevations based on a straight-line draft between end of June and end of August target elevations: usually 1600 feet (1016.0 ksf) on June 30 and 1535 feet (497.0 ksf) on August 31. The summer draft is then shaped to provide flat flows July through August where possible. Dworshak is drafted to 1520 feet (395.8 ksf) on September 30 subject to a maximum outflow of 9,867 cfs.

- **Lower Snake projects operate at MOP** (minimum operating pool) in accordance with the PNCA data submittal. As identified in the Federal Columbia River Power System BiOp, the Corps operates Lower Granite, Little Goose, Lower Monumental, and Ice Harbor within one foot of minimum operating pool (MOP) during the period from approximately April 3 through September 30. MOPs for Lower Granite, Little Goose, Lower Monumental and Ice Harbor are elevations 733 (224.9 ksf), 633 (260.4 ksf), 537 (180.4 ksf) and 437 feet (193.4 ksf), respectively. During the rest of the year Lower Granite, Little Goose, Lower Monumental and Ice Harbor operate at elevations 738 (245.7 ksf), 638 (285.0 ksf), 540 (190.1 ksf) and 440 feet (204.8 ksf), respectively.
- **Spill for Fish Passage** is included at the eight lower Snake River and lower Columbia River projects (Lower Granite, Little Goose, Lower Monumental, Ice Harbor, McNary, John Day, The Dalles and Bonneville) based on the PNCA OY21 data, summarized below. The spill is limited at times by 125 percent Total Dissolved Gas (TDG) Caps except John Day and The Dalles by 120 percent TDG Caps and minimum turbine flow requirements.

- **Juvenile Passage Spill and Total Dissolved Gas Caps from OY21 PNCA Planning**

Project	Spill	Min Turb	Days	Hourly Schedule	Notes
LWG	gas cap vs 20 kcfs; 18 kcfs; 7 kcfs	11.6 kcfs	Apr 3 - Jun 20; Jun 21 - Aug 14; Aug 15-31	16 hrs/day vs 8 hrs/day; All hours; All hours	125% TDG Gas Cap: 72 kcfs Apr-Jun; 115%/120% Gas Cap: 40 kcfs Jul-Aug
LGS	gas cap vs 30% flow; 30% flow; 7 kcfs	11.5 kcfs	Apr 3 - Jun 20; Jun 21 - Aug 14; Aug 15-31	16 hrs/day vs 8 hrs/day; All hours; All hours	125% TDG Gas Cap: 79 kcfs Apr-Jun; 115%/120% Gas cap: 30 kcfs Jul-Aug
LMN	gas cap vs 30 kcfs; 17 kcfs; 7 kcfs	11.5 kcfs	Apr 3 - Jun 20; Jun 21 - Aug 14; Aug 15-31	16 hrs/day vs 8 hrs/day; All hours; All hours	125% TDG Gas Cap: 98 kcfs Apr-Jun; 115%/120% Gas cap: 21 kcfs Jul-Aug
IHR	gas cap vs 30% flow; 30% flow; 8.5 kcfs	9.5 kcfs	Apr 3 - Jun 20; Jun 21 - Aug 14; Aug 15-31	16 hrs/day vs 8 hrs/day; All hours; All hours	125% TDG Gas Cap: 119 kcfs Apr-Jun; 115%/120% Gas cap: 90 kcfs Jul-Aug
MCN	gas cap vs 48% flow; 57% flow; 20 kcfs	50 kcfs	Apr 10 - Jun 15; Jun 16 - Aug 14; Aug 15 - 31	16 hrs/day vs 8 hrs/day; All hours; All hours	125% TDG Gas Cap: 265 kcfs Apr-Jun; 115%/120% Gas cap: 185 kcfs Jul-Aug
JDA	gas cap vs 32% flow; 35% flow; 20 kcfs	50 kcfs	Apr 10 - Jun 15; Jun 16 - Aug 14; Aug 15 - 31	16 hrs/day vs 8 hrs/day; All hours; All hours	120% TDG Gas Cap: 156 kcfs Apr-Jun; 115%/120% Gas cap: 135 kcfs Jul-Aug
TDA	40% flow; 30% flow	50 kcfs	Apr 10 - Aug 14; Aug 15-31	All hours	125% TDG Gas Cap: 169 kcfs Apr-Jun15; 115%/120% TDG Gas Gap: 105 kcfs Jun16- Aug31
BON	gas cap vs 100 kcfs; 95 kcfs ; 50 kcfs	30 kcfs	Apr 10 - Jun 15; Jun 16 - Aug 14; Aug 15 - 31	16 hrs/day vs 8 hrs/day; All hours; All hours	Limited Gas Cap: 150 kcfs (due to erosion concerns)

LWG = Lower Granite; LGS = Little Goose; LMN = Lower Monumental; IHR = Ice Harbor; MCN = McNary;
JDA = John Day; TDA = The Dalles; BON = Bonneville

- **Chum Flow Objectives at Bonneville** are from November 1 through April 10 and estimated at 125,000 cfs in the PNCA data submittal. Grand Coulee drafts for this Chum flow requirement with draft limits of 1275 feet (2102.4 ksf) in November and 1270 feet (1915.1 ksf) in December.
- **McNary Flow Targets** for April 10 through June 30 are 220,000 to 260,000 cfs based on The Dalles April 1, April-August volume runoff forecasts. When the forecast is 80 MAF or less the target is 220,000 cfs, and when the forecast is 92 MAF or greater the target is 260,000 cfs. Straight-line interpolation determines the flow targets for volume forecasts between 80 and 92 MAF. McNary summer flow targets are 200,000 cfs in July and August. Grand Coulee drafts for this flow augmentation target, subject to draft limits.

- **Lower Granite Flow Targets** also vary depending on the forecast. When Lower Granite April 1, April-July runoff forecast is less than 16 MAF, then the April 3 through June 20 flow target is 85,000 cfs, and the June 21 through August 31 is 50,000 cfs. When the April 1 Lower Granite April-July forecast is greater than 20 MAF, the April 3 through June 20 target flow is 100,000 cfs. In June 21 through August 31, when the forecast is greater than 28 MAF, the flow target is 55,000 cfs. The spring flow targets are interpolated for forecasts between 16 and 20 MAF, and the summer flow targets are interpolated for forecasts between 16 and 28 MAF. However, these spring flow targets do not actually get modeled at Lower Granite because filling Dworshak by the end of June has a higher priority. Dworshak does draft to meet the summer flow objective, subject to draft limits.
- **John Day** is operated at 262.5 feet (127.8 ksfd) from April through September. From October through March, John Day operates to 265 feet (190.4 ksfd).
- **Bonneville** second powerhouse corner collector is modeled as “other spill” in HYDSIM, using the “other spill” data from PNCA OY20.
- **Spill at non-Federal projects** is summarized below from PNCA OY21 planning data. Wells dam spills the percentage shown below if Chief Joseph’s outflow is less than 140,000 cfs; otherwise Wells spills 10,200 cfs April 9 through August 19 (email from Jeff Johnson, Douglas PUD on September 16, 2020).

<u>Non-Federal Spill for Fish</u> (Percent of Total Outflow or cfs)							
PROJECTS:	Apr1	Apr2	May	Jun	Jul	Aug1	Aug2
Wells (%)	3.0	6.5	6.5	6.5	6.5	6.5	1.6
Rocky Reach (%)	0.0	0.0	0.3	9.0	9.0	9.0	2.8
Rock Island (%)	0.0	9.3	10.0	20.0	20.0	20.0	6.3
Wanapum (cfs)	1,700	21,700	21,700	21,700	21,700	21,700	12,700
Priest Rapids (cfs)	1,800	28,800	28,000	28,800	28,800	28,800	15,800
PROJECTS:	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Wanapum (cfs)	3,700	3,700	2,700	800	800	1,200	1,458
Priest Rapids (cfs)	2,800	2,800	2,300	200	200	1,100	1,461

OPER STEP

- **All AER Step criteria apply in the OPER Step unless specifically amended below.**
- **Loads** in the OPER Step are the 2022 and 2023 Coordinated System firm residual hydro loads from BPA’s LORA Study (Token S215-RC-20210209-151011) on February 10, 2021. These residual hydro loads are the total Coordinated System firm load less all the firm non-hydro resources. A variable secondary market limit based on an AURORA market analysis is also included in March through July periods of every year. The secondary market limit is calculated as necessary to force the HYDSIM ‘overgen’ spill to equal the spill due to lack of market estimated by AURORA, except in periods when Grand Coulee and/or Hungry Horse are able to store water and avoid spill. The Coordinated System independent hydro generation from BPA’s LORA Study (Token S215-RC-20210209-151011) is also used in this study to develop the residual hydro load. In this OPER study, the generation from the Tacoma and PacifiCorp projects is included in the HYDSIM Coordinated System total generation because Tacoma and PacifiCorp are included in the Coordinated System firm residual hydro loads from BPA’s LORA.
- **Availability Factors** are used in HYDSIM to simulate unit outages and units held for reserve requirements. Unit outages are based on the latest information for all plants provided by BPA’s Federal Hydro Projects Ops group. The availability factors are calculated using a combination of planned outages plus forced outages that are based on historical data and forecast equipment condition. The following tables show availability factors based on these outage assumptions for FY 2022 and FY 2023.

FY 2022:

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
LIB	95%	99%	99%	81%	81%	79%	98%	99%	99%	87%	67%	83%
HGH	73%	73%	73%	73%	73%	48%	44%	48%	49%	51%	48%	48%
ALF	98%	80%	88%	98%	98%	98%	98%	81%	64%	83%	86%	98%
DWR	30%	65%	95%	70%	96%	99%	99%	99%	99%	99%	99%	92%
GCL	87%	88%	82%	83%	84%	88%	82%	79%	77%	81%	86%	83%
CHJ	89%	81%	83%	83%	85%	80%	93%	95%	96%	98%	94%	81%
LWG	87%	87%	88%	85%	93%	97%	97%	97%	97%	88%	73%	81%
LGS	48%	59%	55%	96%	89%	94%	96%	95%	95%	87%	86%	82%
LMN	74%	72%	72%	81%	81%	79%	80%	79%	79%	60%	55%	47%
IHR	79%	68%	68%	82%	82%	71%	82%	77%	77%	68%	65%	75%
MCN	80%	80%	88%	94%	95%	94%	93%	93%	91%	91%	91%	85%
JDA	59%	68%	79%	81%	75%	76%	80%	80%	81%	80%	76%	69%
TDA	86%	88%	87%	87%	82%	87%	78%	76%	74%	77%	80%	89%
BON	85%	91%	88%	86%	84%	89%	82%	69%	84%	84%	86%	96%

FY 2023:

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
LIB	99%	99%	99%	84%	81%	81%	94%	99%	99%	84%	69%	83%
HGH	53%	98%	98%	98%	98%	58%	42%	56%	63%	44%	53%	73%
ALF	98%	79%	89%	98%	98%	98%	98%	98%	98%	90%	74%	73%
DWR	60%	76%	98%	99%	99%	99%	99%	99%	99%	99%	99%	91%
GCL	82%	79%	76%	83%	82%	86%	95%	91%	88%	94%	90%	84%
CHJ	97%	98%	98%	98%	97%	95%	92%	95%	96%	97%	95%	91%
LWG	87%	88%	87%	86%	95%	96%	97%	97%	97%	86%	82%	84%
LGS	85%	82%	85%	97%	96%	94%	97%	96%	96%	87%	79%	86%
LMN	65%	75%	81%	82%	90%	97%	98%	97%	97%	87%	85%	83%
IHR	65%	70%	78%	86%	95%	83%	91%	91%	91%	72%	79%	91%
MCN	96%	96%	95%	96%	96%	95%	94%	95%	94%	93%	92%	82%
JDA	76%	75%	74%	84%	79%	80%	84%	85%	85%	85%	81%	70%
TDA	90%	88%	90%	90%	82%	81%	77%	77%	83%	83%	87%	82%
BON	88%	81%	83%	80%	76%	74%	71%	68%	70%	91%	86%	93%

- The availability factors are also used to reflect reserve requirements because HYDSIM has no other mechanism to account for incremental reserves, which require the system to have units available to increase generation. After calculating availability factors based on unit outage information, the availability factors are further decreased to reflect units needed for meeting reserve requirements. The availability factors assume the federal hydro system will provide 83.4 percent of the estimated operating contingency reserves required. The availability factors reflect operating contingency reserve requirements at 3 percent of the total control area generation and 3 percent of the total loads. Balancing reserves were modeled to assume full participation in the Energy Imbalance Market for FY 2023. A balancing reserve requirement of 706 MW for October and 707 MW for all other periods in FY 2022 and 768 MW for October and 783 MW for all other periods in FY 2023 is also included in the availability factors. The installed wind forecast of 3521 MW for all periods in FY2022 and 3521 MW for October and 3721 for all other periods in FY2023 is also included in the availability factors. The availability factors also reflect the 1 percent of peak efficiency turbine operating requirements at the four lower Snake River projects and the four lower Columbia River projects in April-November. The following tables show availability factors after considering these reserve and turbine operating requirements in addition to the outage assumptions.

FY 2022:

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
LIB	94%	99%	99%	81%	81%	79%	98%	99%	99%	87%	67%	83%
HGH	72%	72%	72%	72%	72%	48%	44%	48%	49%	51%	48%	48%
ALF	92%	82%	82%	92%	92%	92%	92%	82%	61%	82%	82%	92%
DWR	30%	66%	96%	70%	96%	99%	99%	99%	99%	99%	99%	92%
GCL	72%	72%	67%	68%	69%	71%	74%	72%	71%	74%	74%	68%
CHJ	88%	81%	82%	83%	84%	80%	92%	91%	90%	94%	94%	81%
LWG	83%	82%	83%	85%	85%	89%	89%	90%	90%	81%	73%	81%
LGS	48%	59%	55%	89%	82%	87%	89%	88%	88%	80%	78%	75%
LMN	74%	72%	72%	81%	81%	79%	73%	72%	72%	52%	55%	47%
IHR	79%	69%	68%	82%	82%	71%	72%	67%	67%	58%	64%	76%
MCN	78%	77%	81%	88%	88%	91%	86%	87%	84%	85%	84%	79%
JDA	58%	67%	76%	78%	72%	75%	71%	72%	73%	72%	71%	68%
TDA	82%	87%	83%	83%	79%	86%	68%	67%	64%	67%	71%	87%
BON	80%	85%	79%	80%	78%	87%	77%	64%	80%	79%	82%	92%

FY 2023:

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
LIB	99%	99%	99%	84%	81%	80%	94%	99%	99%	84%	69%	83%
HGH	53%	98%	98%	98%	97%	58%	42%	56%	63%	44%	53%	72%
ALF	92%	82%	92%	92%	92%	92%	92%	92%	92%	92%	71%	71%
DWR	60%	76%	98%	99%	99%	99%	99%	99%	99%	99%	99%	90%
GCL	74%	72%	70%	74%	74%	75%	77%	75%	76%	77%	75%	73%
CHJ	94%	91%	88%	94%	93%	94%	92%	94%	96%	96%	94%	91%
LWG	80%	80%	79%	78%	87%	88%	97%	97%	89%	85%	82%	83%
LGS	77%	74%	77%	88%	88%	85%	96%	88%	88%	87%	79%	78%
LMN	58%	67%	73%	74%	82%	89%	97%	97%	89%	87%	84%	82%
IHR	56%	60%	67%	76%	84%	73%	91%	92%	81%	72%	79%	82%
MCN	90%	89%	88%	89%	89%	88%	87%	88%	87%	86%	85%	76%
JDA	69%	69%	67%	77%	72%	76%	81%	82%	81%	80%	78%	65%
TDA	83%	81%	83%	83%	75%	74%	75%	74%	78%	78%	80%	75%
BON	80%	72%	74%	72%	68%	66%	68%	64%	66%	86%	82%	86%

- **Initial Contents** for the major federal projects are based on the 70-year average of September 30 storage ending content from the 08_RateCase10_final study.
- **Flood Control Rule Curves** for Grand Coulee are adjusted for the amount of storage capability available below the URC on April 30 each year for Mica, Arrow, and Duncan and are also adjusted to shift some Dworshak flood control space to Grand Coulee when possible while still meeting Dworshak’s local flood control requirements and following Corps procedures.
- **Non-federal projects** are run to the resulting contents from the AER Step. This allows the federal projects to operate differently without causing the non-federal projects to adjust operations to meet the system load.
- **Bonneville Chum Flow Objectives** are determined each period based on 11.5 or 11.3 feet tailwater elevation requirements below Bonneville November through March and 16.5 feet tailwater in April and the historical Willamette streamflow data. The January-March minimum Chum flows are re-calculated based on the regulated outflow at Bonneville in December. Grand

Coulee operates to meet the chum flow objectives November through March subject to the draft limits described under Grand Coulee.

- **April 10 URC** objectives are included in the study. The BiOp objective is for the federal reservoirs to be at their April 10 URC elevations each year, as full as possible in preparation for providing flows to meet the spring flow objectives, although minimum flow requirements and forecast errors can cause projects to miss this refill objective. The objective is for Grand Coulee to operate with an 85 percent chance of reaching the April 10 elevation and for Libby and Hungry Horse to operate with a 75 percent chance. The April 10 objectives are modeled as April 15 objectives in HYDSIM.
- **Lower Granite flow targets** in summer have been removed from the OPER Step as well because Dworshak now runs to target elevations by the end of August to better reflect actual operations.
- **Deeper draft of storage projects** is allowed for hydropower generation at Dworshak in January-March periods and Grand Coulee in September-October periods.
- **Sliding scale summer draft at Libby and Hungry Horse** adjusts summer ending elevations based on local forecasts for each project. This operation is intended to provide flexibility in balancing objectives for meeting both local resident fish and downstream flow augmentation.

Lib May A-A WSF		Sept elev target	
%ile	kaf	ft	ksfd
0%	0.0	2439	2061.3
15%	4656.0	2439	2061.3
25%	5007.0	2449	2280.3
75%	6782.0	2449	2280.3
85%	7328.0	2454	2394.9
100%	99999.0	2454	2394.9

HGH April-Aug volume		Sept elev target	
%ile	kaf	ft	ksfd
0%	0.0	3540	1275.1
10%	1407.0	3540	1275.1
20%	1579.0	3550	1386.7
100%	9999.0	3550	1386.7

Use final May April – August water supply forecast to set end of September target, linearly interpolate flows to avoid double peaking.

Project Specific Data:

- **Mica, Duncan, and Arrow** are fixed to the 80-year DOP22 study for 2022 and 2023 rate case studies with the following additions: 1) One MAF of flow augmentation is stored at Mica in January and is released in February and March in years when the final February and March forecasts of April through August volume at The Dalles is less than 75 MAF, otherwise it is released all in July unless the regulated outflow at McNary is below 250,000 cfs in May-June then releases start in May with the limit of 8,000 cfs in May-Jun periods. The 1 MAF storage in January is limited by a minimum flow of 30,000 cfs for whitefish if the January 1 forecast of April through August volume at The Dalles is less than 75 MAF; otherwise the minimum flow is 20,000 cfs. Storage in February or March is not allowed if the outflows decrease more than 19,000 cfs from the January outflow. 2) The trout spawning operation is included at Arrow where April flows are at least 15,000 cfs and May and June flows are equal to or greater than the preceding month whenever possible. No more than a 5,000 cfs decrease is allowed in June from May outflow and 3) Mica, Arrow and Duncan projects are on DOP22 contents by July 31. The outflow at Arrow in July cannot exceed 80,000 cfs.
- **Non-Treaty Storage Agreement (NTSA):** A total of 3 MAF NTSA storage and release is included in the study. Modeling the NTSA operations required plant data updates at Mica and Arrow to increase their maximum storage contents and their upper rule curves. The study includes the NTSA dry-year operations and spring-summer operations. The NTSA also includes operations driven by price, but this operation is not included in this study due to the complexities of incorporating price-based operating decisions.
 - **For Dry Year NTSA operation**
 - Store ½ MAF into Mica (or Arrow) in November-June if the April Final April-August volume forecast at The Dalles is 91.4 MAF or higher.

- Release ½ MAF from Mica (or Arrow) in May-June if the April Final April-August volume forecast at The Dalles is less than 72.5 MAF (forecast trigger for Dry Years).
- Water that is stored in November-June should not violate the minimum flow requirements at Priest Rapids, Bonneville, and McNary and the Arrow trout/whitefish operations. Water that is released in May or June should not violate the Arrow trout spawning operation.
- **For Spring-Summer NTSA operation**
 - Store up to 2½ MAF at Mica (or Arrow) in April 16 – June 30 if meeting Arrow trout operation and exceeding 300,000 cfs outflow at McNary and minimum flow requirement at Priest. Do not store in May-June for years that Arrow’s outflow from the DOP study exceeds 80,000 cfs in August. Canada would not likely agree to the spring-summer provision when flows are forecasted to be that high.
 - Release in July-August the amount that was stored in April 16 – June 30 at Mica (or Arrow). If the release in July would result in McNary exceeding its flow target, then the release occurs in August without violating the 80,000 cfs maximum flow.
- **Priest Rapids** flow augmentation targets for Steelhead are modeled as 120,000 cfs in April 10-15, 90,000 cfs in April 16-30 and 135,000 cfs in May. In dry years, the May flow targets will be reduced to 100,000 cfs if Grand Coulee inflow is below 90,000 cfs and will be reduced to 115,000 cfs if Grand Coulee inflow is between 90,000 cfs and 120,000 cfs.
- **Brownlee** drafts to 2062.0 feet (391.5 ksf) in July, 2059.0 feet (373.5 ksf) on August 15, 2055.0 feet (349.4 ksf) on August 31, 2048.0 feet (309.7 ksf) in September, and 2050.0 feet (320.4 ksf) in October. In November, Brownlee operates to meet the flow target of 9,000 cfs at Hells Canyon for Idaho Power Company Fall Chinook operation, and Hells Canyon only exceeds the 9,000 cfs flow when Brownlee drafts more due to the flood control URC. In December, Brownlee targets 2065.0 feet (409.5 ksf) but will draft deeper in order to meet the minimum flow of 9,000 cfs at Hells Canyon. In January, Brownlee targets 2065.0 feet (409.5 ksf) but can fill higher to avoid exceeding the maximum flow limit. In February-May, Brownlee remains full at 2077.0 ft (491.7 ksf) except when the URC or minimum flow at Hells Canyon of 9,000 cfs requires deeper drafts. In June, Brownlee targets full except when draft is needed to maintain a minimum flow of 7,000 cfs at Hells Canyon. Brownlee has a maximum flow limit of 35,000 cfs in all periods except 30,000 cfs in January.
- **Dworshak** operates to the variable draft limits (VDL) during January – March to potentially increase generation and reduce spill while protecting the ability to refill. Dworshak has a maximum discharge of 17,000 cfs April-December and 14,000 cfs January-March to reflect typical actual operations and avoid exceeding 110 percent TDG. January through June outflows are reshaped to reduce forced spill. July and August outflows are smoothed to reflect typical actual operations by using 11,000 cfs minimum in July and August 1-15, and a maximum 25 percent reduction from the first half of August to the second half of August. Dworshak has a maximum elevation of 1590 feet (922.8 ksf) in July, and a target elevation of 1519 feet (389.4 ksf) in September.
- **Ice Harbor** has an updated H/K table to reflect the upgrading fish friendly turbine for unit 2 and unit 3 (Note: last H/K updated in 2016 to reflect fish friendly turbine upgraded for unit 1).
- **Libby** has a September minimum flow of 6,000 cfs. In the fall, Libby minimizes October draft and maximizes December draft by targeting outflow of 4,000 cfs in October-November, and limiting outflow to 20,000 cfs maximum October-December. Libby can release above 4,000 cfs in October-November if the outflow in December exceeds 20,000 cfs. Libby cannot fill above 2435 ft (1977.1 ksf) in November and 2454 ft (2394.9 ksf) in June. Libby’s outflow in May is based on a VarQ allowable refill calculation as used in actual operations; therefore, Libby might fill above flood control some years in May to achieve calculated VarQ flow. Libby’s May through September operation includes the sturgeon pulse, bull trout minimum required flows, and summer flow augmentation. June and July outflows are reshaped to reduce forced spill in July. Libby has a sliding scale draft target elevations of 5 feet to 20 feet from full by the end of September based on Libby Apr-August forecast in May. Libby is allowed to fill above flood

control to avoid spilling in January through March and the outflows during January through April are reshaped to reduce forced spill to reflect the actual operation.

- **Hungry Horse** has a maximum elevation of 3545 feet (1330.2 ksf) in April and 3558 feet (1480.1 ksf) in June. Outflows from the second half of April and May are reshaped to prevent June outflow from exceeding 9000 cfs. Columbia Falls minimum flow requirements in July-September include the additional irrigation flow of 493 cfs in dry years. Hungry Horse minimum is set to 50% of the Columbia Falls minimum flow during March-June if Hungry Horse April-May-September volume forecast is less than 1450 KAF. Hungry Horse has a sliding scale draft target elevation of 10 feet to 20 feet by end of September based on Hungry Horse Apr-August forecast in May.
- **Séliš Ksanka Qlispé (formerly Kerr)** targets 2891 feet (488.6 ksf) in October, 2890.0 feet (426.3 ksf) in November, 2888 feet (302.8 ksf) in December, 2886.3 feet (198.8 ksf) in January, 2885.7 feet (162.3 ksf) in February, 2884.8 feet (107.9 ksf) in March, 2885.7 feet (159.3 ksf) on April 15, 2885.8 feet (168.4 ksf) on April 30, 2888.7 feet (345.9 ksf) in May, 2892.8.0 feet (601.4 ksf) June-August, and 2892 feet (551.4 ksf) in September.
- **Grand Coulee** operates to variable storage content in September (between 1277 ft = 2178.6 ksf and 1288 feet = 2614.8 ksf) and October (between 1283 feet = 2418.3 ksf and 1288 feet = 2614.8 ksf) for a power operation depending available water and market condition. The draft limits for Chum flow in November and December are 1275 feet (2102.4 ksf) and 1270 feet (1915.1 ksf), respectively. Grand Coulee cannot fill above 1288 feet (2615.5 ksf) in any period except July-August in some years that it can fill to 1290 feet (2697.1 ksf) in order to reduce forced spill. Grand Coulee drafts to support the Chum flow target January through March subject to the draft limits of about 10 feet below the computed variable draft limit in non-drum gate maintenance years. The Bureau performs maintenance during the spring on the spillway drum gates at least one of every three years, at least two of every five years, and at least three of every seven years. This drum gate maintenance requires a maximum Lake Roosevelt elevation of 1267.0 feet (1805.3 ksf) at the end of February and 1255 feet (1380.2 ksf) from March through April 30. Years when the April flood control elevation at Grand Coulee based on February water supply forecast is less than 1255 feet (1380.2 ksf) are automatic drum gate maintenance years. Grand Coulee can draft further if needed to support the Vernita Bar flow requirement at Priest Rapids. The deepest draft limits at Grand Coulee for Vernita Bar minimum flow requirement without violating the draft limits of 1270 feet (1915.1 ksf) in December, 1260 feet (1553.3 ksf) in January, 1250 feet (1209.0 ksf) in February, and 1240 feet (884.4 ksf) March-May. Grand Coulee can only draft 10 feet below the flood control to support the Steelhead minimum flows in April-May. In all periods, Grand Coulee cannot draft below 1228 feet (525.6 ksf) unless it is on flood control operation. In June, Grand Coulee operates between 1285 feet (2493.0 ksf) and 1288 feet (2615.5 ksf) unless it is on flood control. Grand Coulee's April-December operation includes additional draft as allowed by the Lake Roosevelt Incremental Storage Releases Program (LRISRP). After meeting all modeling requirements, Grand Coulee's January through March operation is re-evaluated to put more generation in January and February or evenly distribute the secondary energy when possible without violating the one foot per day draft rate limit and other constraints in the study.
- **John Day** is operated a foot higher in April – May to disrupt salmonid predator reproduction. at 263.5 feet (152.5 ksf).
- **Columbia Basin Irrigation Project Pumping (Banks Lake)** is captured through the PNCA data submittal estimates of pumping, which are based on the average of the past five years' actual pumping.
- Wells dam spills start April 9 through August 19.
- **Juvenile Fish Bypass Spill** for the federal projects is summarized in the following table. In addition the overshoot spill of 10 kcfs is modeled at MCN, IHR, LMN, LWG, and 5 kcfs LGS projects to provide safe and effective downstream passage for adult steelhead that overshoot and then migrate back downstream during the months when there is no scheduled spill for juvenile

fish bypass. The overshoot spill will be provided at least 3 days each week and 4 hours each day from October 1 to November 15 and March 1 to March 31.

Spill Criteria for BP22FPFY2022-23

Projects	Spill	Mn Turb	Days	Hour Ending	Notes
LWG	125% gas cap vs 20kcf; 18kcf; 7kcf	11.6kcf	Apr 3- Jun 20; Jun 21- Aug 14; Aug 15- Aug 31	Spring: 16hrs/day vs 8hrs/day ; Summer: All hours	All years
LGS	125% gas cap vs 30% flow, 30% flow, 7kcf	11.5kcf	Apr 3- Jun 20; Jun 21- Aug 14; Aug 15- Aug 31	Spring: 16hrs/day vs 8hrs/day ; Summer: All hours	All years
LMN	125% gas cap vs 30kcf; 17kcf; 7kcf	11.5kcf	Apr 3- Jun 20; Jun 21- Aug 14; Aug 15- Aug 31	Spring: 16hrs/day vs 8hrs/day ; Summer: All hours	All years
IHR	125% gas cap vs 30% flow, 30% flow, 8.5kcf	9.5kcf	Apr 3- Jun 20; Jun 21- Aug 14; Aug 15- Aug 31	Spring: 16hrs/day vs 8hrs/day ; Summer: All hours	All years
MCN	125% gas cap vs 48% flow, 57% flow, 20kcf	50kcf	Apr 10- Jun 15; Jun 16- Aug 14; Aug 15- Aug 31	Spring: 16hrs/day vs 8hrs/day ; Summer: All hours	All years
JDA**	120% gas cap vs 32% flow, 35% flow, 20kcf	50kcf	Apr 10- Jun 15; Jun 16- Aug 14; Aug 15- Aug 31	Spring: 16hrs/day vs 8hrs/day ; Summer: All hours	All years ** Small ladder attraction spill (Sep1-Nov30)
TDA	40% flow, 30% flow	50kcf	Apr 10- Aug 14; Aug 15- Aug 31	All hours	All years
BON**	125% gas cap vs 100kcf; 95kcf; 50kcf	30kcf	Apr 10- Jun 15; Jun 16- Aug 14; Aug 15- Aug 31	Spring: 16hrs/day vs 8hrs/day ; Summer: All hours	All years ** Small ladder attraction spill (Sep1-Apr9)

LWG = Lower Granite; LGS = Little Goose; LMN = Lower Monumental; IHR = Ice Harbor; MCN = McNary; JDA = John Day; TDA = The Dalles; BON = Bonneville. Bonneville has spill limit of 150 kcf due to erosion.

Modeled spill amounts for %TDG levels, source: Alexis Mills, COE for upcoming PNCA OY22 Data Submittal.		
Project	%TDG level	Spill (kcf)
LWG	125%	79
LGS	125%	81
LMN	125%	106
IHR	125%	114
MCN	125%	260
JDA	120%	168
TDA	125%	169
BON	125%	150, max due to erosion

LWG = Lower Granite; LGS = Little Goose; LMN = Lower Monumental; IHR = Ice Harbor; MCN = McNary; JDA = John Day; TDA = The Dalles; BON = Bonneville.

- **Over-generation Spill Priorities and TDG Caps** are summarized in the following table. Spill up to the TDG levels is modeled in the order listed below to avoid generation levels that exceed the secondary market limit. This is called ‘overgen spill’ in HYDSIM. A variable secondary market limit is calculated in HYDSIM as needed to force the ‘overgen’ spill in each period to equal the estimated energy spilled due to lack of market conditions forecast from the AURORA model. The following values approximate the typical amounts of spill that cause TDG to reach the specified percentage levels. (In actual operations, the spill at a certain gas level can vary significantly and operations are adjusted in real time to manage to the appropriate gas level.)

Spring/Summer: TDG spill production estimates in kcfs for over generation spill.

Project	TDG	MAR	APR	MAY	JUN	JUL	Project	TDG	MAR	APR	MAY	JUN	JUL
LWG	110%	20	15	15	15	5	TDA	110%	45	30	20	20	20
LWG	115%	30	35	35	35	25	TDA	115%	60	85	80	80	105
LWG	Waiver	30	73	84	45	45	TDA	Waiver	60	85	80	80	105
LWG	120%	45	53	51	53	53	TDA	120%	120	120	120	116	120
LWG	122%	60	63	63	63	63	TDA	122%	175	175	175	175	175
LWG	125%	72	72	84	81	84	TDA	125%	200	215	258	199	200
LWG	127%	75	80	80	85	85	TDA	127%	275	295	290	290	295
LWG	130%	100	100	100	100	100	TDA	130%	360	250	360	360	360
LWG	135%	140	140	140	140	140	TDA	135%	400	300	300	400	400
LGS	110%	20	15	10	10	10	BON	110%	70	70	70	70	70
LGS	115%	23	40	35	35	30	BON	115%	100	100	100	100	100
LGS	Waiver	20	79	83	79	32	BON	Waiver	70	150	150	150	113
LGS	120%	52	56	54	53	53	BON	120%	113	113	113	110	113
LGS	122%	55	64	64	62	62	BON	122%	150	150	150	150	150
LGS	125%	76	79	83	81	83	BON	125%	150	150	150	150	150
LGS	127%	85	95	95	95	95	BON	127%	150	150	150	150	150
LGS	130%	125	125	125	125	125	BON	130%	150	150	150	150	150
LGS	135%	180	180	180	180	180	BON	135%	150	150	150	150	150
LMN	110%	15	15	10	10	10	CHJ	110%	25	25	25	25	25
LMN	110% Bulk	15	10	10	10	10	CHJ	115%	45	45	45	45	45
LMN	110% Unif	15	10	10	10	10	CHJ	Waiver	25	25	25	25	25
LMN	115%	25	35	30	30	30	CHJ	120%	120	120	120	120	120
LMN	115% Bulk	25	25	25	19	18	CHJ	122%	160	160	160	160	160
LMN	115% Unif	25	30	25	35	35	CHJ	125%	190	190	190	190	190
LMN	Waiver	15	110	30	30	21	CHJ	127%	280	280	280	280	280
LMN	120% Bulk	15	42	40	48	21	CHJ	130%	290	290	290	290	290
LMN	120% Unif	30	42	40	48	52	CHJ	135%	300	300	300	300	300
LMN	120%	30	42	40	48	52	GCL_RO	110%	4	5	5	0	0
LMN	122%	35	48	48	50	56	GCL_RO	111%	5	5	1	0	0
LMN	125%	98	110	112	112	112	GCL_RO	112%	6	5	1	0	0
LMN	127%	139	145	146	146	146	GCL_RO	113%	7	5	2	0	0
LMN	130%	180	180	180	180	180	GCL_RO	114%	9	5	2	0	0
LMN	135%	250	250	250	250	250	GCL_RO	115%	11	5	3	0	0
IHR	110%	25	10	10	10	10	GCL_RO	Waiver	15	13	6	0	0
IHR	115%	35	45	40	40	90	GCL_RO	120%	21	35	35	0	0
IHR	Waiver	25	91	91	90	90	GCL_RO	122%	25	40	40	0	0
IHR	120%	75	91	91	90	91	GCL_RO	125%	32	45	45	0	0
IHR	122%	100	100	100	98	98	GCL_RO	127%	36	42	33	0	0
IHR	125%	117	119	112	112	112	GCL_RO	130%	43	50	50	50	50
IHR	127%	129	132	129	129	129	GCL_RO	135%	56	40	40	40	40
IHR	130%	140	145	145	145	145	GCL_DG	110%	19	10	10	10	10
IHR	135%	240	240	240	240	240	GCL_DG	111%	19	10	19	19	10
MCN	110%	48	48	48	48	48	GCL_DG	112%	19	10	19	19	10
MCN	115%	80	80	80	80	80	GCL_DG	113%	19	10	19	19	10
MCN	Waiver	140	193	197	179	180	GCL_DG	114%	19	10	19	19	10
MCN	120%	140	193	197	179	185	GCL_DG	115%	29	10	18	18	10
MCN	122%	185	200	200	200	200	GCL_DG	Waiver	49	50	51	51	10
MCN	125%	270	265	262	259	270	GCL_DG	120%	65	40	40	40	40
MCN	127%	295	293	291	255	260	GCL_DG	122%	74	50	50	50	50
MCN	130%	320	320	320	250	250	GCL_DG	125%	85	80	80	80	80
MCN	135%	380	380	380	300	300	GCL_DG	127%	95	96	100	100	100
JDA	110%	20	15	15	5	10	GCL_DG	130%	105	120	120	120	120
JDA	115%	80	40	60	60	135	GCL_DG	135%	120	130	130	130	130
JDA	Waiver	20	157	176	174	170							
JDA	120%	170	157	176	174	170							
JDA	122%	180	180	180	196	180							
JDA	125%	215	190	191	217	215							
JDA	127%	238	220	221	234	233							
JDA	130%	260	250	250	250	250							
JDA	135%	300	300	300	300	300							

GCL_RO: Spill through outlet tubes is assumed to occur March through May when the reservoir is more likely below the spillway crest.

GCL_DG: Spill through drumgates is assumed to occur June through February.

DWR: only spills to 110% and is typically managed as a percentage of outflow.

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9. FEDERAL LOADS AND RESOURCES FOR FY 2022 AND FY 2023..... 131

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Table 9.1.1

Loads and Resources - Federal System Rate Case

Fiscal Year: 2022 Water Year: 1937

BP22 Final Proposal - Rate Case Study Report Date: 6/23/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Firm Obligations															
1 Load Following	2,821	3,090	3,760	3,754	3,464	3,109	3,062	3,062	3,035	3,311	3,561	3,380	3,382	2,942	3,274
2 Preference Customers	2,610	2,979	3,617	3,611	3,331	2,943	2,738	2,738	2,611	2,833	3,040	2,956	2,959	2,573	2,986
3 Federal Agencies	88.0	101	132	135	116	106	89.9	89.9	79.0	83.0	94.1	93.8	93.9	82.2	100.0
4 USBR	123	9.66	10.8	8.39	18.0	60.9	234	234	345	395	427	330	329	286	188
5 Federal Diversity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Tier 1 Block	445	710	715	777	730	695	357	357	130	20.2	285	320	321	523	474
7 Tier 1 Block	445	710	715	777	730	695	357	357	130	20.2	285	320	321	523	474
8 Slice	2,540	3,156	3,262	2,960	2,773	2,769	2,438	2,343	2,833	2,961	2,800	2,750	2,685	2,601	2,814
9 Slice Block	1,170	1,366	1,565	1,558	1,428	1,316	1,224	1,224	1,191	1,163	1,217	1,190	1,190	1,136	1,293
10 Slice Output from T1 System	1,370	1,790	1,697	1,402	1,345	1,452	1,214	1,118	1,642	1,798	1,583	1,560	1,495	1,465	1,521
11 Direct Service Industries	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
12 Direct Service Industry	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
13 Contract Deliveries	670	674	674	468	468	464	464	464	464	464	481	524	605	464	527
14 Exports	660	660	660	454	454	454	454	454	454	454	472	514	596	454	516
15 Intra-Regional Transfers (Out)	9.44	13.3	13.4	13.2	13.4	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	10.7
16 Tier 2 Load Service	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152
17 Preference Customers	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146
18 Federal Agencies	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
19 Resource Remarketing	-4.14	-4.15	-4.13	-4.15	-4.13	-4.16	-4.17	-4.17	-4.15	-4.16	-4.14	-4.15	-4.15	-4.13	-4.15
20 Uncommitted Sales	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152
21 Tier 1 System Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Firm Surplus	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152
23 Total Firm Obligations	6,792	7,947	8,728	8,276	7,752	7,353	6,637	6,542	6,778	7,073	7,444	7,291	7,310	6,846	7,407
Net Resources															
24 Hydro	5,515	7,311	7,043	5,670	5,322	5,818	4,860	4,433	6,944	7,695	6,773	6,680	6,422	6,070	6,286
25 Regulated Hydro - Net	5,205	7,052	6,868	5,553	5,190	5,584	4,421	3,987	6,222	6,984	6,364	6,304	6,046	5,750	5,934
26 Independent Hydro - Net	307	257	172	113	128	230	435	442	719	708	407	373	373	318	348
27 Small Hydro - Net	2.67	2.84	3.19	3.21	3.05	3.10	3.09	3.09	2.83	2.72	2.63	2.63	2.63	2.63	2.88

Table 9.1.1
Loads and Resources - Federal System Rate Case
Fiscal Year: 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/23/2021

S215-RC-20210504-203021															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
28 Non-Hydro Renewable	38.6	55.3	42.1	22.5	37.3	42.9	76.7	64.5	61.3	60.6	59.2	30.6	45.9	42.6	47.6
29 Wind - Net	38.6	55.3	42.1	22.5	37.3	42.9	76.7	64.5	61.3	60.6	59.2	30.6	45.9	42.6	47.6
30 Solar - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Other - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Thermal	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116
33 Nuclear - Net	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116
34 Coal - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Natural Gas - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Petroleum - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Biofuel - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Cogeneration - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Contract Purchases	158	209	309	272	236	205	160	158	163	171	162	166	167	165	198
40 Imports	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
41 Intra-Regional Transfers (In)	0	38.9	139	113	75.0	39.5	0	0	0	0	0	0	0	0	33.7
42 Non-Federal CER	131	135	136	131	134	137	136	136	131	136	131	136	137	136	134
43 Slice Transmission Loss Return	26.1	34.0	32.3	26.7	25.6	27.6	23.1	21.3	31.2	34.2	30.1	29.7	28.4	27.9	28.9
44 Uncommitted Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Tier 1 Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Tier 2 Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 Reserves & Losses	-208	-264	-258	-215	-204	-218	-189	-176	-253	-309	-277	-273	-264	-225	-240
48 Operating Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Balancing Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Transmission Losses	-208	-264	-258	-215	-204	-218	-189	-176	-253	-309	-277	-273	-264	-225	-240
51 Total Net Resources	6,619	8,428	8,252	6,865	6,507	6,964	6,023	5,596	8,031	8,734	7,834	7,720	7,486	7,169	7,407
52 Total Surplus/Deficit	-173	481	-477	-1,411	-1,245	-389	-614	-947	1,253	1,661	390	429	176	322	0

Table 9.1.1

Loads and Resources - Federal System Rate Case

Fiscal Year: 2023 Water Year: 1937

BP22 Final Proposal - Rate Case Study Report Date: 6/23/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
Firm Obligations															
1 Load Following	2,811	3,102	3,774	3,771	3,482	3,125	3,089	3,068	3,049	3,322	3,572	3,393	3,395	2,971	3,288
2 Preference Customers	2,597	2,986	3,627	3,622	3,343	2,953	2,759	2,736	2,619	2,842	3,048	2,967	2,970	2,600	2,996
3 Federal Agencies	91.5	106	136	141	121	111	96.7	96.2	84.9	84.7	96.0	95.9	96.0	84.9	104
4 USBR	123	9.66	10.8	8.39	18.0	60.9	233	235	345	395	427	330	329	286	188
5 Federal Diversity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Tier 1 Block	444	708	713	775	728	693	358	355	129	20.2	284	319	320	521	473
7 Tier 1 Block	444	708	713	775	728	693	358	355	129	20.2	284	319	320	521	473
8 Slice	2,584	3,205	3,317	3,016	2,825	2,817	2,480	2,385	2,714	2,855	2,845	2,796	2,730	2,646	2,836
9 Slice Block	1,217	1,419	1,623	1,616	1,482	1,368	1,274	1,274	1,238	1,210	1,265	1,238	1,238	1,183	1,344
10 Slice Output from T1 System	1,367	1,786	1,694	1,399	1,342	1,450	1,206	1,111	1,476	1,645	1,580	1,559	1,492	1,463	1,491
11 Direct Service Industries	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
12 Direct Service Industry	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
13 Contract Deliveries	464	468	468	468	468	464	464	464	464	464	481	524	605	464	475
14 Exports	454	454	454	454	454	454	454	454	454	454	472	514	596	454	464
15 Intra-Regional Transfers (Out)	9.44	13.3	13.4	13.2	13.4	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	9.44	10.7
16 Tier 2 Load Service	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169
17 Preference Customers	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
18 Federal Agencies	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
19 Resource Remarketing	-4.07	-4.07	-4.07	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.02
20 Uncommitted Sales	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3
21 Tier 1 System Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Firm Surplus	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3
23 Total Firm Obligations	6,505	7,684	8,474	8,231	7,704	7,301	6,592	6,473	6,558	6,862	7,383	7,234	7,252	6,803	7,273
Net Resources															
24 Hydro	5,516	7,312	7,044	5,774	5,317	5,795	4,848	4,427	6,851	7,703	6,775	6,681	6,422	6,071	6,285
25 Regulated Hydro - Net	5,206	7,053	6,869	5,657	5,186	5,562	4,410	3,982	6,129	6,992	6,366	6,305	6,047	5,751	5,934
26 Independent Hydro - Net	307	257	172	113	128	230	435	442	719	708	407	373	373	318	348
27 Small Hydro - Net	2.67	2.84	3.19	3.21	3.05	3.10	3.09	3.09	2.83	2.72	2.63	2.63	2.63	2.63	2.88

Table 9.1.1
Loads and Resources - Federal System Rate Case
Fiscal Year: 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/23/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
28 Non-Hydro Renewable	25.3	36.2	27.6	14.8	24.4	28.1	50.2	42.3	45.2	44.7	43.7	22.6	33.8	31.5	33.0
29 Wind - Net	25.3	36.2	27.6	14.8	24.4	28.1	50.2	42.3	45.2	44.7	43.7	22.6	33.8	31.5	33.0
30 Solar - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Other - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Thermal	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	360	409	1,116	1,116	1,116	1,116	994
33 Nuclear - Net	1,116	1,116	1,116	1,116	1,116	1,116	1,116	1,116	360	409	1,116	1,116	1,116	1,116	994
34 Coal - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Natural Gas - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Petroleum - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Biofuel - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Cogeneration - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Contract Purchases	158	210	308	272	236	205	160	147	165	168	162	166	166	165	197
40 Imports	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
41 Intra-Regional Transfers (In)	0	38.9	139	113	75.0	39.5	0	0	0	0	0	0	0	0	33.7
42 Non-Federal CER	131	136	136	131	134	137	136	125	136	136	131	136	137	136	134
43 Slice Transmission Loss Return	26.0	34.0	32.2	26.6	25.5	27.6	22.9	21.1	28.1	31.3	30.0	29.6	28.4	27.8	28.4
44 Uncommitted Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Tier 1 Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Tier 2 Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 Reserves & Losses	-208	-263	-258	-218	-203	-217	-188	-174	-227	-285	-276	-272	-264	-224	-236
48 Operating Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Balancing Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Transmission Losses	-208	-263	-258	-218	-203	-217	-188	-174	-227	-285	-276	-272	-264	-224	-236
51 Total Net Resources	6,608	8,411	8,238	6,959	6,491	6,927	5,986	5,558	7,194	8,040	7,821	7,713	7,475	7,159	7,273
52 Total Surplus/Deficit	103	727	-236	-1,272	-1,213	-373	-606	-914	636	1,178	437	479	223	355	0

Table 9.1.2

Loads and Resources - Federal System Rate Case

Fiscal Year: 2022 Water Year: 1937

BP22 Final Proposal - Rate Case Study Report Date: 6/23/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Firm Obligations															
1 Load Following	1,266,648	1,319,636	1,648,017	1,628,651	1,405,277	1,399,697	663,691	663,691	1,312,050	1,440,933	1,528,166	736,639	793,303	1,231,154	17,037,553
2 Preference Customers	1,191,192	1,274,570	1,587,459	1,567,762	1,355,116	1,336,039	602,364	602,364	1,152,313	1,271,410	1,343,688	668,417	719,834	1,111,919	15,784,447
3 Federal Agencies	39,299	41,928	55,859	57,384	45,364	46,108	19,232	19,232	34,104	36,639	41,484	20,850	22,454	34,768	514,704
4 USBR	36,156	3,138	4,699	3,505	4,797	17,550	42,096	42,096	125,634	132,884	142,994	47,372	51,016	84,467	738,402
5 Federal Diversity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Tier 1 Block	198,794	307,244	319,367	347,026	294,201	309,815	77,204	77,204	57,928	8,747	127,056	68,878	74,176	225,916	2,493,558
7 Tier 1 Block	198,794	307,244	319,367	347,026	294,201	309,815	77,204	77,204	57,928	8,747	127,056	68,878	74,176	225,916	2,493,558
8 Slice	1,138,176	1,334,358	1,355,913	1,227,532	1,073,367	1,229,668	526,368	501,380	1,289,563	1,401,890	1,273,641	633,838	647,387	1,127,368	14,760,450
9 Slice Block	486,728	546,510	651,090	623,391	548,385	568,712	254,616	254,616	476,338	483,955	486,766	247,492	266,530	454,366	6,349,495
10 Slice Output from T1 System	651,448	787,849	704,824	604,142	524,982	660,956	271,752	246,764	813,225	917,935	786,876	386,346	380,857	673,001	8,410,955
11 Direct Service Industries	5,084	4,747	4,809	4,826	4,533	5,081	2,442	2,442	4,886	4,936	4,824	2,470	2,660	4,570	58,311
12 Direct Service Industry	5,084	4,747	4,809	4,826	4,533	5,081	2,442	2,442	4,886	4,936	4,824	2,470	2,660	4,570	58,311
13 Contract Deliveries	427,621	416,525	430,533	344,574	311,601	341,622	165,511	165,511	341,774	331,022	348,776	177,978	208,250	330,871	4,342,168
14 Exports	423,695	409,950	423,695	337,999	305,290	337,545	163,548	163,548	337,999	327,096	345,001	176,015	206,136	327,096	4,284,614
15 Intra-Regional Transfers (Out)	3,926	6,575	6,838	6,575	6,312	4,077	1,963	1,963	3,775	3,926	3,775	1,963	2,114	3,775	57,555
16 Tier 2 Load Service	63,420	60,977	63,423	60,977	58,543	65,848	31,704	31,704	60,976	63,410	60,980	31,708	34,147	60,983	748,799
17 Preference Customers	60,541	58,213	60,541	58,213	55,884	62,870	30,271	30,271	58,213	60,541	58,213	30,271	32,599	58,213	714,853
18 Federal Agencies	4,600	4,423	4,600	4,423	4,246	4,777	2,300	2,300	4,423	4,600	4,423	2,300	2,477	4,423	54,317
19 Resource Remarketing	-1,722	-1,659	-1,719	-1,659	-1,587	-1,799	-867	-867	-1,660	-1,731	-1,656	-863	-930	-1,653	-20,372
20 Uncommitted Sales	63,324	60,888	63,324	60,888	58,452	65,759	31,662	31,662	60,888	63,324	60,888	31,662	34,097	60,888	747,705
21 Tier 1 System Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Firm Surplus	63,324	60,888	63,324	60,888	58,452	65,759	31,662	31,662	60,888	63,324	60,888	31,662	34,097	60,888	747,705
23 Total Firm Obligations	3,163,067	3,504,375	3,885,385	3,674,475	3,205,974	3,417,490	1,498,583	1,473,594	3,128,065	3,314,262	3,404,331	1,683,172	1,794,020	3,041,750	40,188,543
Net Resources															
24 Hydro	2,796,239	3,437,638	3,293,636	2,801,292	2,348,496	2,870,765	1,143,840	1,033,089	3,639,772	4,049,181	3,528,193	1,715,659	1,688,884	2,926,332	37,273,014
25 Regulated Hydro - Net	2,637,694	3,302,297	3,202,479	2,751,781	2,291,379	2,752,321	1,039,769	916,190	3,305,226	3,706,520	3,340,604	1,633,953	1,601,513	2,769,982	35,251,708
26 Independent Hydro - Net	157,432	134,202	89,824	48,212	55,944	117,108	103,429	116,256	333,409	341,531	186,536	81,158	86,780	155,298	2,007,120
27 Small Hydro - Net	1,113	1,140	1,333	1,299	1,172	1,335	642	642	1,137	1,130	1,053	548	590	1,052	14,187

Table 9.1.2

Loads and Resources - Federal System Rate Case

Fiscal Year: 2022 Water Year: 1937

BP22 Final Proposal - Rate Case Study Report Date: 6/23/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
28 Non-Hydro Renewable	15,441	17,698	15,896	8,753	15,560	18,888	16,617	14,005	25,482	24,993	24,408	5,856	10,005	18,321	231,923
29 Wind - Net	15,441	17,698	15,896	8,753	15,560	18,888	16,617	14,005	25,482	24,993	24,408	5,856	10,005	18,321	231,923
30 Solar - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Other - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Thermal	464,256	446,400	464,256	446,400	428,544	482,112	232,128	232,128	446,400	464,256	446,400	232,128	249,984	446,400	5,481,792
33 Nuclear - Net	464,256	446,400	464,256	446,400	428,544	482,112	232,128	232,128	446,400	464,256	446,400	232,128	249,984	446,400	5,481,792
34 Coal - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Natural Gas - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Petroleum - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Biofuel - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Cogeneration - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Contract Purchases	110,150	128,984	173,981	155,890	129,409	136,555	54,256	53,781	109,867	115,634	109,365	56,436	60,107	107,200	1,501,614
40 Imports	416	400	416	400	384	432	208	208	400	416	400	208	224	400	4,912
41 Intra-Regional Transfers (In)	0	20,000	62,400	50,000	28,800	21,600	0	0	0	0	0	0	0	0	182,800
42 Non-Federal CER	97,344	93,600	97,760	94,000	90,240	101,952	48,880	48,880	94,000	97,760	94,000	48,880	52,640	94,000	1,153,936
43 Slice Transmission Loss Return	12,390	14,984	13,405	11,490	9,985	12,571	5,168	4,693	15,467	17,458	14,965	7,348	7,243	12,800	159,966
44 Uncommitted Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Tier 1 Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Tier 2 Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 Reserves & Losses	-103,075	-122,252	-119,821	-103,615	-88,676	-106,511	-43,980	-40,556	-128,826	-158,690	-139,924	-68,451	-68,398	-106,231	-1,399,004
48 Operating Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Balancing Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Transmission Losses	-103,075	-122,252	-119,821	-103,615	-88,676	-106,511	-43,980	-40,556	-128,826	-158,690	-139,924	-68,451	-68,398	-106,231	-1,399,004
51 Total Net Resources	3,283,011	3,908,469	3,827,948	3,308,720	2,833,333	3,401,809	1,402,861	1,292,447	4,092,694	4,495,374	3,968,442	1,941,628	1,940,582	3,392,022	43,089,340
52 Total Surplus/Deficit	119,944	404,094	-57,437	-365,755	-372,641	-15,681	-95,721	-181,147	964,629	1,181,112	564,112	258,456	146,561	350,272	2,900,797

Table 9.1.2
Loads and Resources - Federal System Rate Case
Fiscal Year: 2023 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/23/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Firm Obligations															
1 Load Following	1,265,121	1,323,810	1,652,763	1,637,609	1,413,236	1,405,892	684,832	632,152	1,334,789	1,447,784	1,534,780	739,776	796,682	1,243,301	17,112,526
2 Preference Customers	1,188,071	1,276,992	1,589,813	1,574,308	1,360,759	1,339,781	619,919	572,233	1,171,956	1,277,514	1,349,530	671,099	722,722	1,122,947	15,837,643
3 Federal Agencies	40,894	43,680	58,251	59,796	47,680	48,562	21,174	19,545	37,001	37,386	42,256	21,305	22,944	35,887	536,360
4 USBR	36,156	3,138	4,699	3,505	4,797	17,550	43,739	40,375	125,833	132,884	142,994	47,372	51,016	84,467	738,523
5 Federal Diversity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Tier 1 Block	198,237	306,360	318,469	346,052	293,373	308,938	80,072	73,913	57,788	8,747	126,722	68,687	73,970	225,269	2,486,598
7 Tier 1 Block	198,237	306,360	318,469	346,052	293,373	308,938	80,072	73,913	57,788	8,747	126,722	68,687	73,970	225,269	2,486,598
8 Slice	1,160,952	1,361,895	1,411,971	1,227,847	1,093,429	1,254,227	536,190	486,328	1,264,999	1,353,116	1,286,730	642,281	657,714	1,143,095	14,880,773
9 Slice Block	506,452	567,696	675,276	646,455	569,240	590,901	264,942	244,562	515,079	503,384	506,142	257,454	277,258	473,172	6,598,014
10 Slice Output from T1 System	654,500	794,199	736,694	581,392	524,189	663,326	271,247	241,766	749,920	849,732	780,588	384,827	380,456	669,923	8,282,759
11 Direct Service Industries	5,084	4,747	4,809	4,826	4,533	5,081	2,540	2,345	4,886	4,936	4,824	2,470	2,660	4,570	58,310
12 Direct Service Industry	5,084	4,747	4,809	4,826	4,533	5,081	2,540	2,345	4,886	4,936	4,824	2,470	2,660	4,570	58,310
13 Contract Deliveries	341,925	334,125	344,837	344,574	311,601	341,622	165,511	165,360	341,925	331,022	348,776	177,977	208,251	330,871	4,088,377
14 Exports	337,999	327,550	337,999	337,999	305,290	337,545	163,548	163,548	337,999	327,096	345,001	176,014	206,137	327,096	4,030,822
15 Intra-Regional Transfers (Out)	3,926	6,575	6,838	6,575	6,312	4,077	1,963	1,812	3,926	3,926	3,775	1,963	2,114	3,775	57,555
16 Tier 2 Load Service	70,359	67,653	70,359	67,682	64,975	73,097	35,195	32,487	70,389	70,389	67,682	35,195	37,902	67,682	831,046
17 Preference Customers	67,323	64,733	67,323	64,733	62,144	69,912	33,661	31,072	67,323	67,323	64,733	33,661	36,251	64,733	794,924
18 Federal Agencies	4,730	4,548	4,730	4,548	4,366	4,911	2,365	2,183	4,730	4,730	4,548	2,365	2,547	4,548	55,845
19 Resource Remarketing	-1,693	-1,628	-1,693	-1,599	-1,535	-1,727	-831	-767	-1,663	-1,663	-1,599	-831	-895	-1,599	-19,722
20 Uncommitted Sales	8,432	8,108	8,432	8,108	7,784	8,757	4,216	3,892	8,432	8,432	8,108	4,216	4,540	8,108	99,566
21 Tier 1 System Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Firm Surplus	8,432	8,108	8,432	8,108	7,784	8,757	4,216	3,892	8,432	8,432	8,108	4,216	4,540	8,108	99,566
23 Total Firm Obligations	3,050,112	3,406,699	3,811,640	3,636,698	3,188,930	3,397,613	1,508,555	1,396,476	3,083,208	3,224,427	3,377,623	1,670,601	1,781,719	3,022,896	39,557,196
Net Resources															
24 Hydro	2,809,595	3,466,076	3,429,716	2,761,728	2,352,548	2,861,983	1,155,345	1,035,234	3,576,837	4,035,589	3,527,324	1,713,243	1,686,896	2,928,830	37,340,944
25 Regulated Hydro - Net	2,651,051	3,330,735	3,338,558	2,712,217	2,295,432	2,743,539	1,051,274	921,432	3,233,863	3,692,928	3,339,736	1,631,537	1,599,525	2,772,480	35,314,306
26 Independent Hydro - Net	157,432	134,202	89,824	48,212	55,944	117,108	103,429	113,202	341,795	341,531	186,536	81,158	86,780	155,298	2,012,452
27 Small Hydro - Net	1,113	1,140	1,333	1,299	1,172	1,335	642	600	1,179	1,130	1,053	548	590	1,052	14,187

Table 9.1.2

Loads and Resources - Federal System Rate Case

Fiscal Year: 2023 Water Year: 1937

BP22 Final Proposal - Rate Case Study Report Date: 6/23/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
28 Non-Hydro Renewable	10,116	11,594	10,414	5,734	10,194	12,374	10,886	9,175	18,803	18,441	18,010	4,321	7,382	13,519	160,960
29 Wind - Net	10,116	11,594	10,414	5,734	10,194	12,374	10,886	9,175	18,803	18,441	18,010	4,321	7,382	13,519	160,960
30 Solar - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Other - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Thermal	464,256	446,400	464,256	446,400	428,544	482,112	232,128	214,272	149,760	170,144	446,400	232,128	249,984	446,400	4,873,184
33 Nuclear - Net	464,256	446,400	464,256	446,400	428,544	482,112	232,128	214,272	149,760	170,144	446,400	232,128	249,984	446,400	4,873,184
34 Coal - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Natural Gas - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Petroleum - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Biofuel - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Cogeneration - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Contract Purchases	110,624	129,505	174,587	155,457	129,393	136,168	54,247	49,910	112,439	114,337	109,246	56,407	60,100	107,141	1,499,560
40 Imports	416	400	416	400	384	432	208	192	416	416	400	208	224	400	4,912
41 Intra-Regional Transfers (In)	0	20,000	62,400	50,000	28,800	21,600	0	0	0	0	0	0	0	0	182,800
42 Non-Federal CER	97,760	94,000	97,760	94,000	90,240	101,520	48,880	45,120	97,760	97,760	94,000	48,880	52,640	94,000	1,154,320
43 Slice Transmission Loss Return	12,448	15,105	14,011	11,057	9,969	12,616	5,159	4,598	14,263	16,161	14,846	7,319	7,236	12,741	157,528
44 Uncommitted Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Tier 1 Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Tier 2 Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 Reserves & Losses	-103,332	-122,942	-123,784	-102,316	-88,636	-106,037	-44,154	-39,807	-117,883	-148,024	-139,674	-68,316	-68,242	-106,159	-1,379,306
48 Operating Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Balancing Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Transmission Losses	-103,332	-122,942	-123,784	-102,316	-88,636	-106,037	-44,154	-39,807	-117,883	-148,024	-139,674	-68,316	-68,242	-106,159	-1,379,306
51 Total Net Resources	3,291,259	3,930,633	3,955,189	3,267,004	2,832,044	3,386,599	1,408,451	1,268,783	3,739,955	4,190,488	3,961,306	1,937,782	1,936,120	3,389,730	42,495,342
52 Total Surplus/Deficit	241,147	523,934	143,549	-369,694	-356,887	-11,014	-100,104	-127,693	656,747	966,061	583,683	267,181	154,401	366,834	2,938,146

Table 9.1.3
Loads and Resources - Federal System Rate Case
Fiscal Year: 2022 Water Year: 1937
BP22 Final Proposal - Rate Case Study Report Date: 6/23/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Firm Obligations															
1 Load Following	831,862	908,196	1,149,362	1,164,652	922,769	910,391	438,554	438,554	945,786	942,861	1,121,253	480,182	505,454	886,844	11,646,719
2 Preference Customers	750,531	873,145	1,103,916	1,118,613	883,104	850,331	383,223	383,223	790,018	768,479	917,850	395,703	416,530	740,942	10,375,609
3 Federal Agencies	26,148	31,221	42,100	43,300	32,350	32,325	13,150	13,150	24,704	23,142	28,563	12,931	13,612	24,440	361,136
4 USBR	55,183	3,830	3,346	2,739	7,315	27,735	42,181	42,181	131,064	151,239	174,839	71,547	75,313	121,462	909,974
5 Federal Diversity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Tier 1 Block	132,529	204,829	212,911	231,351	196,134	206,543	51,469	51,469	38,618	5,831	84,704	46,462	48,907	150,611	1,662,371
7 Tier 1 Block	132,529	204,829	212,911	231,351	196,134	206,543	51,469	51,469	38,618	5,831	84,704	46,462	48,907	150,611	1,662,371
8 Slice	751,404	941,216	1,071,359	974,748	790,313	827,664	351,183	341,926	817,967	730,194	809,696	356,229	383,702	745,542	9,893,143
9 Slice Block	383,766	438,564	513,358	536,126	411,286	409,415	186,064	186,064	409,658	353,656	418,626	180,856	190,375	363,486	4,981,302
10 Slice Output from T1 System	367,638	502,651	558,001	438,622	379,027	418,249	165,118	155,861	408,310	376,538	391,069	175,373	193,327	382,056	4,911,841
11 Direct Service Industries	3,844	3,905	4,119	4,102	3,531	3,835	1,878	1,878	4,043	3,704	4,104	1,850	1,948	4,070	46,810
12 Direct Service Industry	3,844	3,905	4,119	4,102	3,531	3,835	1,878	1,878	4,043	3,704	4,104	1,850	1,948	4,070	46,810
13 Contract Deliveries	70,663	69,162	70,644	3,253	2,725	2,935	1,434	1,434	3,246	2,869	9,268	10,545	24,142	3,020	275,342
14 Exports	67,568	66,126	67,542	0	0	0	0	0	0	0	6,022	9,110	22,632	0	239,001
15 Intra-Regional Transfers (Out)	3,095	3,036	3,102	3,253	2,725	2,935	1,434	1,434	3,246	2,869	3,246	1,434	1,510	3,020	36,341
16 Tier 2 Load Service	50,004	48,934	50,006	52,440	43,907	47,404	23,168	23,168	52,439	46,338	52,442	23,171	24,390	48,787	586,601
17 Preference Customers	47,734	46,716	47,734	50,063	41,913	45,260	22,121	22,121	50,063	44,242	50,063	22,121	23,285	46,570	560,007
18 Federal Agencies	3,627	3,550	3,627	3,804	3,185	3,439	1,681	1,681	3,804	3,362	3,804	1,681	1,769	3,539	42,551
19 Resource Remarketing	-1,358	-1,331	-1,355	-1,427	-1,191	-1,295	-633	-633	-1,428	-1,265	-1,425	-631	-664	-1,322	-15,957
20 Uncommitted Sales	49,928	48,863	49,928	52,364	43,839	47,340	23,137	23,137	52,364	46,275	52,364	23,137	24,355	48,710	585,743
21 Tier 1 System Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Firm Surplus	49,928	48,863	49,928	52,364	43,839	47,340	23,137	23,137	52,364	46,275	52,364	23,137	24,355	48,710	585,743
23 Total Firm Obligations	1,890,235	2,225,106	2,608,331	2,482,910	2,003,219	2,046,113	890,824	881,567	1,914,463	1,778,072	2,133,832	941,576	1,012,899	1,887,584	24,696,729
Net Resources															
24 Hydro	1,306,886	1,833,705	1,946,432	1,417,078	1,227,689	1,451,907	605,641	562,664	1,526,314	1,491,435	1,511,103	689,014	776,978	1,444,082	17,790,928
25 Regulated Hydro - Net	1,235,104	1,781,855	1,907,203	1,379,832	1,196,605	1,396,857	551,927	519,233	1,323,739	1,322,200	1,394,071	635,552	720,229	1,369,926	16,734,330
26 Independent Hydro - Net	70,906	50,945	38,191	36,161	30,206	54,083	53,243	42,961	201,604	168,410	116,127	53,062	56,328	73,315	1,045,542
27 Small Hydro - Net	877	905	1,038	1,086	878	967	470	470	972	826	906	400	421	842	11,055

Table 9.1.3

Loads and Resources - Federal System Rate Case

Fiscal Year: 2022 Water Year: 1937

BP22 Final Proposal - Rate Case Study Report Date: 6/23/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
28 Non-Hydro Renewable	13,260	22,162	15,457	8,015	9,497	12,964	10,986	9,220	20,103	18,625	19,650	5,152	7,609	12,368	185,067
29 Wind - Net	13,260	22,162	15,457	8,015	9,497	12,964	10,986	9,220	20,103	18,625	19,650	5,152	7,609	12,368	185,067
30 Solar - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Other - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Thermal	366,048	358,236	366,048	383,904	321,408	347,076	169,632	169,632	383,904	339,264	383,904	169,632	178,560	357,120	4,294,368
33 Nuclear - Net	366,048	358,236	366,048	383,904	321,408	347,076	169,632	169,632	383,904	339,264	383,904	169,632	178,560	357,120	4,294,368
34 Coal - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Natural Gas - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Petroleum - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Biofuel - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Cogeneration - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Contract Purchases	7,320	21,758	55,548	46,526	29,097	16,041	3,292	3,116	11,550	7,465	11,222	3,487	3,837	11,426	231,685
40 Imports	328	321	328	344	288	311	152	152	344	304	344	152	160	320	3,848
41 Intra-Regional Transfers (In)	0	8,025	41,000	34,400	21,600	7,775	0	0	0	0	0	0	0	0	112,800
42 Non-Federal CER	0	3,852	3,608	3,440	0	0	0	0	3,440	0	3,440	0	0	3,840	21,620
43 Slice Transmission Loss Return	6,992	9,560	10,612	8,342	7,209	7,955	3,140	2,964	7,766	7,161	7,438	3,335	3,677	7,266	93,417
44 Uncommitted Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Tier 1 Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Tier 2 Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 Reserves & Losses	-51,745	-67,811	-72,300	-56,354	-48,154	-55,482	-24,009	-22,663	-59,703	-63,711	-65,942	-29,664	-33,014	-55,548	-706,098
48 Operating Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Balancing Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Transmission Losses	-51,745	-67,811	-72,300	-56,354	-48,154	-55,482	-24,009	-22,663	-59,703	-63,711	-65,942	-29,664	-33,014	-55,548	-706,098
51 Total Net Resources	1,641,769	2,168,051	2,311,186	1,799,170	1,539,537	1,772,505	765,542	721,970	1,882,168	1,793,078	1,859,936	837,620	933,969	1,769,448	21,795,950
52 Total Surplus/Deficit	-248,465	-57,055	-297,144	-683,740	-463,683	-273,608	-125,282	-159,597	-32,295	15,006	-273,895	-103,955	-78,929	-118,136	-2,900,779

Table 9.1.3

Loads and Resources - Federal System Rate Case

Fiscal Year: 2023 Water Year: 1937

BP22 Final Proposal - Rate Case Study Report Date: 6/23/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
Firm Obligations															
1 Load Following	826,430	912,522	1,154,947	1,168,059	926,877	915,917	427,243	472,216	933,816	943,878	1,122,426	481,800	507,158	895,666	11,688,957
2 Preference Customers	744,048	876,057	1,108,370	1,120,239	885,615	854,116	373,500	412,816	776,771	769,022	918,448	397,034	417,931	748,986	10,402,954
3 Federal Agencies	27,200	32,635	43,230	45,081	33,947	34,065	13,634	15,069	26,181	23,617	29,139	13,219	13,915	25,218	376,150
4 USBR	55,183	3,830	3,346	2,739	7,315	27,735	40,109	44,331	130,864	151,239	174,839	71,547	75,313	121,462	909,853
5 Federal Diversity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Tier 1 Block	132,158	204,240	212,313	230,702	195,582	205,959	48,762	53,894	38,526	5,831	84,482	46,333	48,772	150,179	1,657,732
7 Tier 1 Block	132,158	204,240	212,313	230,702	195,582	205,959	48,762	53,894	38,526	5,831	84,482	46,333	48,772	150,179	1,657,732
8 Slice	761,746	948,872	1,056,202	1,015,741	804,881	839,127	356,690	372,236	754,166	702,199	829,936	364,399	390,647	761,912	9,958,753
9 Slice Block	399,318	455,567	532,428	555,961	426,928	425,388	193,608	213,988	406,119	367,854	435,290	188,136	198,038	378,531	5,177,154
10 Slice Output from T1 System	362,428	493,305	523,774	459,779	377,953	413,738	163,082	158,248	348,047	334,345	394,646	176,263	192,610	383,381	4,781,599
11 Direct Service Industries	3,844	3,905	4,119	4,102	3,531	3,835	1,784	1,972	4,043	3,704	4,104	1,850	1,948	4,070	46,810
12 Direct Service Industry	3,844	3,905	4,119	4,102	3,531	3,835	1,784	1,972	4,043	3,704	4,104	1,850	1,948	4,070	46,810
13 Contract Deliveries	3,095	3,036	3,102	3,253	2,725	2,935	1,434	1,585	3,095	2,869	9,268	10,545	24,143	3,020	74,106
14 Exports	0	0	0	0	0	0	0	0	0	0	6,022	9,110	22,633	0	37,765
15 Intra-Regional Transfers (Out)	3,095	3,036	3,102	3,253	2,725	2,935	1,434	1,585	3,095	2,869	3,246	1,434	1,510	3,020	36,341
16 Tier 2 Load Service	55,476	54,292	55,476	58,207	48,731	52,623	25,719	28,426	55,499	51,438	58,207	25,719	27,073	54,146	651,030
17 Preference Customers	53,081	51,948	53,081	55,671	46,608	50,330	24,599	27,188	53,081	49,197	55,671	24,599	25,893	51,787	622,733
18 Federal Agencies	3,729	3,649	3,729	3,911	3,274	3,536	1,728	1,910	3,729	3,456	3,911	1,728	1,819	3,638	43,748
19 Resource Remarketing	-1,335	-1,306	-1,335	-1,375	-1,151	-1,243	-608	-671	-1,311	-1,215	-1,375	-608	-640	-1,279	-15,451
20 Uncommitted Sales	6,649	6,507	6,649	6,973	5,838	6,304	3,081	3,405	6,649	6,162	6,973	3,081	3,243	6,486	77,999
21 Tier 1 System Surplus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Firm Surplus	6,649	6,507	6,649	6,973	5,838	6,304	3,081	3,405	6,649	6,162	6,973	3,081	3,243	6,486	77,999
23 Total Firm Obligations	1,789,398	2,133,374	2,492,806	2,487,036	1,988,165	2,026,699	864,714	933,736	1,795,793	1,716,082	2,115,395	933,727	1,002,983	1,875,480	24,155,388
Net Resources															
24 Hydro	1,294,174	1,806,072	1,811,243	1,534,078	1,220,761	1,443,823	589,996	558,548	1,520,627	1,510,355	1,513,310	691,775	779,195	1,442,256	17,716,213
25 Regulated Hydro - Net	1,222,391	1,754,222	1,772,014	1,496,831	1,189,677	1,388,773	536,283	512,020	1,326,480	1,341,119	1,396,278	638,313	722,446	1,368,100	16,664,947
26 Independent Hydro - Net	70,906	50,945	38,191	36,161	30,206	54,083	53,243	46,015	193,218	168,410	116,127	53,062	56,328	73,315	1,040,211
27 Small Hydro - Net	877	905	1,038	1,086	878	967	470	512	930	826	906	400	421	842	11,055

Table 9.1.3

Loads and Resources - Federal System Rate Case

Fiscal Year: 2023 Water Year: 1937

BP22 Final Proposal - Rate Case Study Report Date: 6/23/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
28 Non-Hydro Renewable	8,687	14,519	10,126	5,251	6,221	8,493	7,197	6,040	14,833	13,742	14,499	3,801	5,615	9,126	128,149
29 Wind - Net	8,687	14,519	10,126	5,251	6,221	8,493	7,197	6,040	14,833	13,742	14,499	3,801	5,615	9,126	128,149
30 Solar - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Other - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Thermal	366,048	358,236	366,048	383,904	321,408	347,076	169,632	187,488	118,080	124,336	383,904	169,632	178,560	357,120	3,831,472
33 Nuclear - Net	366,048	358,236	366,048	383,904	321,408	347,076	169,632	187,488	118,080	124,336	383,904	169,632	178,560	357,120	3,831,472
34 Coal - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Natural Gas - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Petroleum - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Biofuel - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Cogeneration - Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Contract Purchases	7,221	21,580	54,570	46,928	29,076	15,955	3,254	3,178	10,227	6,663	11,290	3,504	3,823	11,451	228,720
40 Imports	328	321	328	344	288	311	152	168	328	304	344	152	160	320	3,848
41 Intra-Regional Transfers (In)	0	8,025	41,000	34,400	21,600	7,775	0	0	0	0	0	0	0	0	112,800
42 Non-Federal CER	0	3,852	3,280	3,440	0	0	0	0	3,280	0	3,440	0	0	3,840	21,132
43 Slice Transmission Loss Return	6,893	9,382	9,962	8,744	7,188	7,869	3,102	3,010	6,619	6,359	7,506	3,352	3,663	7,291	90,940
44 Uncommitted Purchases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Tier 1 Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Tier 2 Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 Reserves & Losses	-51,220	-66,740	-68,026	-59,816	-47,845	-55,101	-23,421	-22,995	-51,264	-56,893	-65,845	-29,712	-33,021	-55,396	-687,295
48 Operating Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Balancing Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Transmission Losses	-51,220	-66,740	-68,026	-59,816	-47,845	-55,101	-23,421	-22,995	-51,264	-56,893	-65,845	-29,712	-33,021	-55,396	-687,295
51 Total Net Resources	1,624,910	2,133,667	2,173,960	1,910,345	1,529,621	1,760,246	746,657	732,259	1,612,504	1,598,202	1,857,158	839,001	934,171	1,764,557	21,217,260
52 Total Surplus/Deficit	-164,488	293	-318,847	-576,690	-458,544	-266,453	-118,056	-201,477	-183,289	-117,880	-258,237	-94,727	-68,812	-110,922	-2,938,128

**10. FEDERAL LOADS AND RESOURCES SURPLUS/DEFICIT BY
WATER YEAR..... 145**

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Table 10.1.1
Federal Report Surplus Deficit By Water Year
Fiscal Year 2022

BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
1 1929 Federal Report Surplus Deficit	203	485	-329	-245	33	163	-370	-879	322	2,430	55	529	502	728	309
2 1930 Federal Report Surplus Deficit	-165	482	-572	-433	-147	-203	-538	-694	1,078	1,036	903	711	625	615	222
3 1931 Federal Report Surplus Deficit	-155	573	-286	-924	-58	239	-169	-961	959	992	964	985	550	505	252
4 1932 Federal Report Surplus Deficit	-217	205	-366	-270	-1,049	2,117	2,794	2,513	3,915	4,507	1,993	1,089	1,363	669	1,293
5 1933 Federal Report Surplus Deficit	107	376	1,196	2,647	3,503	2,019	1,462	126	2,853	5,962	4,513	2,821	2,949	802	2,298
6 1934 Federal Report Surplus Deficit	706	3,098	4,805	5,596	5,449	3,687	4,824	3,475	4,099	3,259	418	462	608	310	2,993
7 1935 Federal Report Surplus Deficit	-179	-123	154	2,192	3,375	1,438	137	161	2,549	2,334	2,508	2,516	792	387	1,358
8 1936 Federal Report Surplus Deficit	17	432	-358	-732	-891	641	-469	2,169	4,649	3,635	1,865	786	734	467	955
9 1937 Federal Report Surplus Deficit	-25	629	-328	-1,263	-1,096	-241	-466	-798	1,401	1,809	538	577	324	470	148
10 1938 Federal Report Surplus Deficit	10	723	526	2,650	1,224	2,952	2,120	3,547	3,597	3,569	2,618	415	313	627	1,811
11 1939 Federal Report Surplus Deficit	102	313	-573	730	1,294	796	343	698	2,914	1,571	1,247	760	563	555	841
12 1940 Federal Report Surplus Deficit	-44	574	-277	1,221	1,060	2,269	1,447	666	2,202	1,602	400	182	235	299	879
13 1941 Federal Report Surplus Deficit	-44	846	412	-53	-324	501	108	-230	1,510	1,427	736	753	623	430	511
14 1942 Federal Report Surplus Deficit	0	925	2,055	2,333	1,898	247	-438	671	1,370	3,858	2,917	1,330	1,344	705	1,478
15 1943 Federal Report Surplus Deficit	10	382	487	3,055	3,668	2,528	5,364	4,554	3,446	5,333	4,248	1,683	1,342	459	2,494
16 1944 Federal Report Surplus Deficit	-143	501	-515	-368	616	-206	-866	-1,204	559	804	282	708	242	322	103
17 1945 Federal Report Surplus Deficit	-121	458	-348	-699	-464	159	-689	-979	2,193	4,112	422	820	516	606	514
18 1946 Federal Report Surplus Deficit	-189	435	544	1,883	1,636	2,623	3,070	3,487	4,119	3,795	3,163	2,061	2,148	671	2,008
19 1947 Federal Report Surplus Deficit	-49	1,223	3,135	3,738	4,397	3,248	1,338	863	3,798	3,636	2,921	1,607	972	750	2,423
20 1948 Federal Report Surplus Deficit	2,198	2,310	1,684	3,797	4,082	1,419	852	3,118	5,934	5,927	2,879	2,823	3,233	965	3,012
21 1949 Federal Report Surplus Deficit	400	999	70	2,315	993	3,282	1,582	3,563	5,143	2,845	461	-66	-22	203	1,608
22 1950 Federal Report Surplus Deficit	-206	390	533	4,040	3,221	3,848	3,560	1,986	3,057	5,461	5,558	3,054	2,812	778	2,698
23 1951 Federal Report Surplus Deficit	1,153	2,614	3,266	5,145	6,132	4,212	3,544	2,589	3,902	3,400	4,318	2,299	1,307	691	3,293
24 1952 Federal Report Surplus Deficit	1,993	1,633	1,783	3,359	3,886	2,305	3,000	4,087	5,585	3,479	2,992	1,767	711	444	2,680
25 1953 Federal Report Surplus Deficit	-163	645	-387	926	4,532	993	-685	-443	2,677	5,742	3,991	1,793	1,711	845	1,727
26 1954 Federal Report Surplus Deficit	177	1,043	1,255	3,501	4,079	2,729	1,301	1,170	4,208	4,968	5,236	3,903	4,441	2,284	2,904
27 1955 Federal Report Surplus Deficit	683	1,767	1,190	411	655	-155	467	-490	2,535	5,538	5,158	3,184	2,274	722	1,774
28 1956 Federal Report Surplus Deficit	447	2,174	3,158	5,487	5,041	3,787	3,115	5,464	5,313	5,641	4,043	2,524	2,542	672	3,540
29 1957 Federal Report Surplus Deficit	467	960	1,310	1,628	1,346	2,133	4,044	1,610	5,763	5,891	1,989	1,598	646	537	2,165
30 1958 Federal Report Surplus Deficit	-114	532	155	2,583	3,109	1,843	267	1,859	4,952	4,889	1,553	1,376	739	619	1,843

**Table 10.1.1
Federal Report Surplus Deficit By Water Year**

Fiscal Year 2022

BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
31 1959 Federal Report Surplus Deficit	33	1,627	2,605	4,736	5,188	2,794	1,755	1,579	2,911	5,147	4,414	2,580	2,947	2,859	3,048
32 1960 Federal Report Surplus Deficit	3,564	3,225	2,435	2,603	2,859	1,769	3,812	2,305	2,952	3,927	2,702	2,058	716	564	2,582
33 1961 Federal Report Surplus Deficit	149	1,047	651	3,078	2,797	3,258	2,196	609	3,788	5,421	1,685	1,301	986	528	2,072
34 1962 Federal Report Surplus Deficit	-337	674	654	1,761	3,482	344	1,494	2,752	3,140	3,766	1,616	1,753	1,335	676	1,602
35 1963 Federal Report Surplus Deficit	416	1,758	2,267	2,233	3,574	822	271	-59	2,469	3,771	2,564	1,942	1,053	1,016	1,862
36 1964 Federal Report Surplus Deficit	90	523	607	699	2,260	229	1,107	327	2,934	5,866	4,869	2,847	2,542	1,423	1,904
37 1965 Federal Report Surplus Deficit	969	1,447	3,410	5,457	6,595	4,265	1,620	2,356	4,837	4,330	3,514	2,951	2,950	687	3,358
38 1966 Federal Report Surplus Deficit	374	580	812	1,514	2,957	951	1,522	942	2,058	3,099	2,354	1,682	653	533	1,457
39 1967 Federal Report Surplus Deficit	-141	445	1,233	3,572	4,929	2,658	1,235	389	2,564	5,469	4,025	2,067	1,820	791	2,342
40 1968 Federal Report Surplus Deficit	274	1,348	923	3,015	2,998	3,232	-278	-744	2,180	3,925	2,741	2,281	1,859	1,821	1,996
41 1969 Federal Report Surplus Deficit	1,136	2,297	1,794	4,611	5,126	2,976	4,211	3,723	4,927	4,020	2,976	1,618	1,260	666	2,979
42 1970 Federal Report Surplus Deficit	88	996	185	2,004	3,719	1,237	-152	-640	2,983	5,696	1,018	979	812	621	1,568
43 1971 Federal Report Surplus Deficit	-131	523	430	4,850	6,346	3,895	2,899	2,602	5,564	5,800	4,289	2,999	3,342	1,002	3,189
44 1972 Federal Report Surplus Deficit	467	1,184	1,227	5,012	4,520	5,635	4,846	2,066	4,952	5,661	4,406	3,197	3,635	1,123	3,419
45 1973 Federal Report Surplus Deficit	723	961	843	1,548	1,562	452	-126	-1,129	1,483	1,438	408	563	-18	242	771
46 1974 Federal Report Surplus Deficit	-267	828	1,951	6,361	5,952	5,022	4,184	4,281	4,586	5,683	5,550	3,309	3,714	1,127	3,701
47 1975 Federal Report Surplus Deficit	41	519	279	2,272	3,094	2,743	376	635	2,837	5,926	4,705	2,067	2,099	1,161	2,174
48 1976 Federal Report Surplus Deficit	1,186	2,536	4,131	4,601	5,142	3,692	3,392	2,608	5,211	4,088	4,303	4,365	5,472	2,714	3,792
49 1977 Federal Report Surplus Deficit	737	466	-195	33	784	-441	-908	-1,197	879	590	223	725	368	47	215
50 1978 Federal Report Surplus Deficit	-372	261	902	1,640	1,225	2,543	1,963	1,228	3,489	3,505	3,363	1,127	826	1,670	1,736
51 1979 Federal Report Surplus Deficit	670	833	-129	1,286	602	1,538	582	-34	3,709	1,944	365	374	182	586	1,000
52 1980 Federal Report Surplus Deficit	32	429	-738	1,208	95	472	168	2,000	5,118	4,455	1,628	512	416	536	1,237
53 1981 Federal Report Surplus Deficit	-18	867	2,407	3,526	4,465	997	-579	-13	2,814	5,669	3,724	3,004	3,015	923	2,329
54 1982 Federal Report Surplus Deficit	91	1,176	1,049	3,540	5,604	5,526	2,766	1,456	3,901	5,738	5,240	2,895	3,429	1,783	3,230
55 1983 Federal Report Surplus Deficit	1,172	1,292	1,531	3,881	3,627	5,319	2,081	1,207	2,902	3,618	4,465	2,786	2,330	1,074	2,758
56 1984 Federal Report Surplus Deficit	391	2,778	1,724	3,457	3,608	3,617	2,238	2,310	3,212	5,922	4,131	2,378	1,526	1,127	2,840
57 1985 Federal Report Surplus Deficit	497	1,246	818	1,679	1,807	867	1,188	1,167	2,924	1,872	617	59	-105	477	1,157
58 1986 Federal Report Surplus Deficit	551	1,727	1,018	2,239	3,759	5,742	3,691	2,206	2,810	4,038	1,408	1,012	529	431	2,274
59 1987 Federal Report Surplus Deficit	-219	995	901	877	469	1,185	388	1,347	3,314	1,775	-15	91	-129	141	858
60 1988 Federal Report Surplus Deficit	-319	531	-526	-897	-288	180	-474	344	1,264	1,620	1,207	660	396	547	316

Table 10.1.1
Federal Report Surplus Deficit By Water Year
Fiscal Year 2022
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
61 1989 Federal Report Surplus Deficit	-393	788	415	239	-798	1,711	1,641	3,006	2,901	1,714	1,052	266	256	342	889
62 1990 Federal Report Surplus Deficit	-76	861	1,462	2,442	3,825	2,373	1,237	2,173	2,346	4,359	3,518	2,347	1,532	484	2,091
63 1991 Federal Report Surplus Deficit	-239	2,705	1,971	3,245	4,696	2,553	2,142	884	2,912	3,516	4,296	2,918	2,340	352	2,499
64 1992 Federal Report Surplus Deficit	61	683	-625	453	514	974	-69	314	2,419	1,103	133	403	350	312	544
65 1993 Federal Report Surplus Deficit	-481	422	-124	-473	-1,198	689	1,012	-573	3,849	2,931	1,563	1,103	1,155	813	791
66 1994 Federal Report Surplus Deficit	-151	621	-102	-466	503	278	-430	909	1,889	1,159	668	463	199	521	455
67 1995 Federal Report Surplus Deficit	-244	332	50	906	1,551	2,910	711	-466	2,772	4,932	1,943	1,238	968	881	1,435
68 1996 Federal Report Surplus Deficit	966	3,463	5,653	5,950	6,417	5,600	2,478	4,215	3,998	5,446	4,464	2,690	1,112	727	3,980
69 1997 Federal Report Surplus Deficit	178	1,118	1,858	6,069	6,727	4,930	4,178	5,032	5,566	5,824	4,655	2,737	3,594	1,705	3,850
70 1998 Federal Report Surplus Deficit	2,661	1,995	812	1,650	3,562	1,626	195	195	4,253	4,875	3,036	2,565	1,674	738	2,286
71 1999 Federal Report Surplus Deficit	25	274	1,331	4,594	4,320	5,297	2,055	2,215	2,896	5,020	4,831	3,855	3,960	719	2,944
72 2000 Federal Report Surplus Deficit	1	2,619	2,310	2,767	2,679	2,641	2,627	3,121	3,034	1,404	2,478	1,563	302	231	1,993
73 2001 Federal Report Surplus Deficit	-82	396	-252	-25	589	19	-901	-1,152	617	593	348	741	177	184	149
74 2002 Federal Report Surplus Deficit	-510	102	272	-50	152	710	1,017	2,479	2,681	4,809	3,679	1,079	1,086	475	1,266
75 2003 Federal Report Surplus Deficit	-107	712	-315	155	803	2,346	927	1,276	1,664	3,802	564	72	217	220	919
76 2004 Federal Report Surplus Deficit	-312	1,043	879	935	862	660	607	493	1,499	2,522	820	21	698	577	864
77 2005 Federal Report Surplus Deficit	586	1,146	1,523	1,747	2,889	914	-516	-478	1,610	2,176	1,568	773	357	511	1,218
78 2006 Federal Report Surplus Deficit	-444	1,197	846	3,176	4,744	1,993	3,825	2,731	4,706	4,401	1,929	608	276	263	2,189
79 2007 Federal Report Surplus Deficit	-302	869	882	2,649	1,910	3,605	2,425	1,167	2,767	2,828	2,186	458	133	42	1,627
80 2008 Federal Report Surplus Deficit	-301	896	-98	1,468	1,050	1,294	293	-621	3,533	5,824	3,068	910	1,441	619	1,532

Table 10.1.1
Federal Report Surplus Deficit By Water Year
Fiscal Year 2023

BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

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A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
1 1929 Federal Report Surplus Deficit	347	599	-220	-338	-62.2	50.1	-494	-973	-340	1838	-29.5	447	417	629	179
2 1930 Federal Report Surplus Deficit	-20.9	596	-463	-525	-242	-312	-655	-788	408	423	817	629	540	516	89.7
3 1931 Federal Report Surplus Deficit	-10.7	687	-177	-921	-265	109	-301	-1055	292	371	878	903	465	406	116
4 1932 Federal Report Surplus Deficit	-72.6	319	-257	-363	-1143	1968	2612	2424	3300	3936	1906	1007	1278	570	1164
5 1933 Federal Report Surplus Deficit	251	491	1305	2710	3382	1914	1244	-16.6	2292	5416	4440	2740	2864	703	2188
6 1934 Federal Report Surplus Deficit	850	3235	4727	6039	5427	3463	4622	3398	3574	2619	333	380	523	211	2895
7 1935 Federal Report Surplus Deficit	-35.2	-8.55	263	2182	3173	1314	1.44	44.5	1874	1763	2416	2434	707	288	1225
8 1936 Federal Report Surplus Deficit	161	547	-249	-781	-1055	529	-602	2077	4009	3111	1783	704	649	368	831
9 1937 Federal Report Surplus Deficit	119	743	-219	-1256	-1197	-357	-590	-898	653	1194	454	495	239	372	16.3
10 1938 Federal Report Surplus Deficit	154	837	636	2657	1130	2727	1876	3310	2919	2976	2529	334	228	529	1667
11 1939 Federal Report Surplus Deficit	246	427	-464	638	1200	677	212	587	2284	997	1162	678	478	456	714
12 1940 Federal Report Surplus Deficit	99.8	688	-168	1391	657	2095	1284	515	1537	976	312	99.9	150	200	735
13 1941 Federal Report Surplus Deficit	99.9	960	522	-146	-236	223	-12.6	-324	852	809	651	671	538	332	379
14 1942 Federal Report Surplus Deficit	144	1039	2166	2329	1795	144	-555	570	722	3232	2833	1248	1260	606	1354
15 1943 Federal Report Surplus Deficit	154	497	597	3031	3450	2378	5099	4248	2828	4704	4151	1602	1258	361	2343
16 1944 Federal Report Surplus Deficit	1.50	615	-405	-461	521	-321	-995	-1298	-98.9	196	197	626	157	224	-28.8
17 1945 Federal Report Surplus Deficit	23.3	572	-239	-687	-588	-44.3	-811	-1073	1543	3574	339	738	431	507	389
18 1946 Federal Report Surplus Deficit	-45.1	549	655	1916	1533	2498	2948	3391	3592	3270	3074	1979	2063	573	1903
19 1947 Federal Report Surplus Deficit	95.0	1337	3227	3751	4265	3082	1190	738	3183	3053	2846	1525	888	651	2297
20 1948 Federal Report Surplus Deficit	2342	2425	1794	3762	3892	1305	670	2955	5466	6148	2792	2738	3149	867	2957
21 1949 Federal Report Surplus Deficit	544	1113	179	2332	899	3040	1498	3466	4495	2252	375	-147	-107	105	1479
22 1950 Federal Report Surplus Deficit	-62.3	504	643	4022	3043	3630	3482	1784	2428	4847	5627	2969	2728	680	2570
23 1951 Federal Report Surplus Deficit	1297	2729	3369	5140	5771	3888	3420	2479	3320	2859	4178	2218	1222	593	3138
24 1952 Federal Report Surplus Deficit	2137	1747	1893	3327	3714	2173	2879	3972	4988	2991	2911	1685	627	346	2561
25 1953 Federal Report Surplus Deficit	-19.4	759	-278	879	4257	883	-798	-545	1998	5664	3861	1712	1627	747	1624
26 1954 Federal Report Surplus Deficit	321	1157	1365	3482	3871	2544	1104	982	3605	4470	5246	3822	4351	2186	2779
27 1955 Federal Report Surplus Deficit	827	1882	1300	319	560	-255	353	-583	1863	5079	5271	2727	2190	623	1657
28 1956 Federal Report Surplus Deficit	591	2289	3255	5489	4745	3552	2993	5381	5010	5751	3915	2442	2458	574	3477
29 1957 Federal Report Surplus Deficit	611	1074	1420	1536	1952	1709	3743	861	5236	5402	1906	1516	561	439	2049
30 1958 Federal Report Surplus Deficit	30.4	646	265	2538	2904	1709	87.3	1692	4304	4315	1471	1294	654	520	1704

Table 10.1.1
Federal Report Surplus Deficit By Water Year
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BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

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A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Energy-aMW - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
31 1959 Federal Report Surplus Deficit	177	1742	2716	4738	5015	2650	1555	1450	2228	4665	4338	2498	2863	2757	2920
32 1960 Federal Report Surplus Deficit	3709	3359	2545	2655	2678	1650	3691	2200	2301	3395	2617	1977	631	466	2464
33 1961 Federal Report Surplus Deficit	293	1161	761	3049	2598	3004	2042	489	3057	5473	1595	1219	901	429	1972
34 1962 Federal Report Surplus Deficit	-193	788	764	1779	3296	216	1355	2613	2528	3353	1532	1672	1251	577	1490
35 1963 Federal Report Surplus Deficit	561	1873	2379	2141	3363	680	107	-153	1793	3144	2482	1860	968	918	1715
36 1964 Federal Report Surplus Deficit	235	637	717	606	2165	117	1023	237	2258	5882	4805	2766	2458	1325	1826
37 1965 Federal Report Surplus Deficit	1113	1561	3506	5364	6229	3933	1399	2150	4173	3703	3432	2869	2867	587	3176
38 1966 Federal Report Surplus Deficit	518	695	921	1421	2825	830	1397	824	1410	2569	2272	1601	569	434	1329
39 1967 Federal Report Surplus Deficit	2.89	559	1343	3456	4756	2577	1100	286	1947	5087	3931	1986	1736	693	2226
40 1968 Federal Report Surplus Deficit	419	1463	1033	2987	2799	3061	-418	-838	1519	3337	2655	2199	1775	1720	1858
41 1969 Federal Report Surplus Deficit	1281	2412	1905	4617	4936	2735	4087	3609	4254	3454	2904	1536	1175	567	2841
42 1970 Federal Report Surplus Deficit	232	1110	295	1897	3506	1113	-316	-738	2312	5026	938	898	727	523	1418
43 1971 Federal Report Surplus Deficit	13.6	637	540	4766	5983	3671	2762	2437	5026	5901	4260	2918	3258	904	3099
44 1972 Federal Report Surplus Deficit	612	1299	1338	4988	4345	5312	4719	1970	4593	6091	4310	3115	3551	1025	3380
45 1973 Federal Report Surplus Deficit	867	1075	953	1456	1468	325	-263	-1223	825	853	321	482	-103	143	640
46 1974 Federal Report Surplus Deficit	-122	943	2063	6927	6094	4605	3987	4093	4282	5815	5628	3227	3630	1029	3717
47 1975 Federal Report Surplus Deficit	185	633	389	2195	2950	2563	196	468	2079	5428	4650	1985	2015	1063	2033
48 1976 Federal Report Surplus Deficit	1331	2650	4191	4557	4869	3567	3271	2506	4552	3574	4215	4281	5375	2617	3653
49 1977 Federal Report Surplus Deficit	882	580	-85.0	-59.4	689	-553	-1034	-1291	217	-28.5	138	643	283	-51.3	83.2
50 1978 Federal Report Surplus Deficit	-228	375	1014	1675	1122	2433	1803	1153	2872	2849	3262	1046	742	1572	1614
51 1979 Federal Report Surplus Deficit	814	947	-19.5	1215	464	1447	440	-122	3028	1343	279	293	97.1	488	868
52 1980 Federal Report Surplus Deficit	176	543	-628	1115	0.74	357	35.6	1881	4461	3992	1542	430	332	437	1116
53 1981 Federal Report Surplus Deficit	126	982	2517	3397	4232	831	-720	-140	2090	5365	3641	2922	2931	825	2198
54 1982 Federal Report Surplus Deficit	235	1291	1159	3486	5197	5048	2598	1198	3302	5022	5053	2814	3345	1685	3027
55 1983 Federal Report Surplus Deficit	1317	1407	1642	3730	3405	4758	1927	1042	2289	3052	4386	2704	2246	976	2578
56 1984 Federal Report Surplus Deficit	536	2893	1835	3424	3397	3301	2080	2146	2571	5393	4027	2297	1442	1029	2690
57 1985 Federal Report Surplus Deficit	642	1361	928	1726	1712	755	1080	1076	2344	1298	535	-22.5	-189	380	1049
58 1986 Federal Report Surplus Deficit	695	1842	1128	2576	3969	4469	3577	2028	2161	3472	1314	930	445	333	2105
59 1987 Federal Report Surplus Deficit	-74.4	1109	1011	784	348	1088	240	1206	2663	1148	-101	9.54	-214	42.4	722
60 1988 Federal Report Surplus Deficit	-175	646	-416	-914	-468	59.9	-617	217	600	982	1122	578	311	449	179

Table 10.1.1
Federal Report Surplus Deficit By Water Year
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Energy-aMW - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Avg
61 1989 Federal Report Surplus Deficit	-249	903	525	258	-892	1595	1461	2836	2270	1107	966	184	171	244	764
62 1990 Federal Report Surplus Deficit	68.4	975	1571	2356	3677	2229	1078	2017	1661	3656	3406	2266	1448	386	1937
63 1991 Federal Report Surplus Deficit	-95.0	2819	2082	3233	4513	2520	1934	681	2239	2903	4084	2836	2256	254	2355
64 1992 Federal Report Surplus Deficit	205	797	-515	360	419	863	-187	216	1768	486	48.4	321	265	213	413
65 1993 Federal Report Surplus Deficit	-338	536	-15.3	-530	-1295	550	792	-667	3254	2385	1425	1020	1071	715	663
66 1994 Federal Report Surplus Deficit	-7.14	735	6.83	-462	294	166	-579	781	1231	551	584	381	114	422	321
67 1995 Federal Report Surplus Deficit	-100	446	159	813	1452	2716	560	-560	2108	4333	1862	1156	883	782	1296
68 1996 Federal Report Surplus Deficit	1110	3602	5682	6172	6121	5047	2319	4103	3394	4705	4380	2609	1029	629	3810
69 1997 Federal Report Surplus Deficit	323	1233	1968	5860	6597	4587	3988	4900	5444	6182	4542	2656	3507	1607	3805
70 1998 Federal Report Surplus Deficit	2805	2110	922	1952	2916	1482	33.1	59.4	3592	4293	2941	2483	1589	640	2141
71 1999 Federal Report Surplus Deficit	170	388	1441	4556	4117	4867	1930	2049	2285	4458	4701	3773	3867	621	2783
72 2000 Federal Report Surplus Deficit	145	2734	2420	2781	2519	2510	2490	3006	2367	759	2408	1481	217	133	1860
73 2001 Federal Report Surplus Deficit	62.0	510	-142	-118	493	-91.7	-1019	-1245	-40.7	-22.3	264	659	91.6	85.4	17.5
74 2002 Federal Report Surplus Deficit	-365	216	381	-29.3	58.7	579	825	2352	2018	4203	3569	998	1002	377	1137
75 2003 Federal Report Surplus Deficit	36.8	826	-206	158	597	2237	810	1161	1029	3298	480	-9.73	132	122	798
76 2004 Federal Report Surplus Deficit	-168	1157	988	842	768	524	460	347	829	1852	735	-60.7	613	479	722
77 2005 Federal Report Surplus Deficit	730	1261	1634	1654	2748	780	-655	-591	942	1571	1483	692	273	413	1080
78 2006 Federal Report Surplus Deficit	-300	1311	956	3111	4528	1873	3699	2524	4061	3817	1847	526	191	165	2049
79 2007 Federal Report Surplus Deficit	-158	984	992	2602	1816	3332	2285	1073	2157	2257	2095	376	47.8	-56.6	1492
80 2008 Federal Report Surplus Deficit	-157	1010	11.5	1488	956	1180	159	-714	2861	5298	2984	829	1357	521	1416

Table 10.1.2
Federal Report Surplus Deficit By Water Year
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HLH-MWh - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
1 1929 Federal Report Surplus Deficit	311,884	390,154	-812	248,436	239,827	234,872	-28,805	-175,315	414,834	1,513,238	253,174	261,805	230,321	534,001	4,427,614
2 1930 Federal Report Surplus Deficit	101,687	400,845	-105,705	150,414	99,386	56,632	-70,947	-138,375	891,969	820,208	830,529	320,625	265,097	483,811	4,106,175
3 1931 Federal Report Surplus Deficit	104,179	431,812	29,599	-116,776	200,121	294,327	3,338	-195,569	836,444	826,920	889,193	415,030	253,599	435,069	4,407,287
4 1932 Federal Report Surplus Deficit	78,188	262,352	-15,338	214,601	-316,171	1,130,749	759,678	662,616	2,141,809	2,031,614	1,384,480	429,694	478,122	498,709	9,741,103
5 1933 Federal Report Surplus Deficit	264,181	297,452	749,915	1,770,971	1,613,321	1,237,851	360,374	140,638	1,578,778	2,463,631	1,925,293	828,448	869,203	560,662	14,660,718
6 1934 Federal Report Surplus Deficit	603,252	1,589,251	1,849,029	2,390,265	2,033,407	1,991,875	1,084,772	800,751	1,796,729	1,468,384	549,101	261,074	298,271	345,365	17,061,525
7 1935 Federal Report Surplus Deficit	103,824	97,134	237,767	1,558,676	1,526,709	966,165	90,903	142,712	1,475,295	1,376,910	1,626,581	775,157	313,433	352,662	10,643,926
8 1936 Federal Report Surplus Deficit	210,537	380,644	-9,076	-23,079	-206,791	419,964	-69,431	593,073	2,372,384	1,640,335	1,331,298	351,303	288,894	396,242	7,676,296
9 1937 Federal Report Surplus Deficit	181,546	463,323	4,168	-306,526	-315,776	48,279	-64,926	-150,352	1,023,857	1,242,704	623,343	289,254	179,729	409,507	3,628,130
10 1938 Federal Report Surplus Deficit	209,646	470,993	388,430	1,796,270	761,130	1,675,920	512,611	841,612	1,899,179	1,906,577	1,684,201	240,070	196,300	465,207	13,048,147
11 1939 Federal Report Surplus Deficit	249,929	325,069	-117,470	773,134	847,203	512,173	138,819	282,237	1,760,847	1,122,905	1,015,635	343,495	249,138	442,292	7,945,406
12 1940 Federal Report Surplus Deficit	163,356	422,619	10,159	1,029,193	713,154	1,271,874	429,195	269,093	1,528,419	1,121,217	556,849	180,804	159,532	293,432	8,148,894
13 1941 Federal Report Surplus Deficit	169,842	528,030	336,226	332,910	39,067	404,184	101,137	29,833	1,159,673	1,024,027	708,586	335,202	246,568	334,521	5,749,806
14 1942 Federal Report Surplus Deficit	180,649	562,729	1,186,971	1,618,193	1,101,046	255,064	-71,120	269,290	1,042,410	1,764,310	1,807,786	462,088	433,251	481,357	11,094,024
15 1943 Federal Report Surplus Deficit	205,895	292,087	342,795	1,952,389	1,817,001	1,404,020	1,269,731	1,152,038	1,858,652	2,424,410	2,167,828	568,029	457,618	388,650	16,301,142
16 1944 Federal Report Surplus Deficit	106,190	390,060	-109,191	180,216	513,876	69,217	-164,327	-259,232	593,446	672,126	444,621	329,695	137,244	312,672	3,216,613
17 1945 Federal Report Surplus Deficit	118,476	386,781	-21,468	-6,633	-17,870	231,231	-104,124	-195,447	1,418,184	1,937,376	455,295	352,770	224,209	455,574	5,234,353
18 1946 Federal Report Surplus Deficit	74,791	344,322	383,600	1,302,196	920,575	1,473,339	752,609	833,869	2,004,360	1,702,759	1,838,218	689,853	703,407	479,865	13,503,766
19 1947 Federal Report Surplus Deficit	148,548	672,613	1,659,274	1,992,609	2,081,153	1,776,605	393,397	306,651	2,203,504	1,692,298	1,762,450	563,225	373,026	523,008	16,148,361
20 1948 Federal Report Surplus Deficit	1,354,877	1,206,117	983,079	2,204,269	1,932,555	877,871	275,626	779,350	2,688,626	2,328,345	1,786,920	853,243	942,530	623,613	18,837,020
21 1949 Federal Report Surplus Deficit	427,670	608,098	187,278	1,474,506	670,925	1,836,437	464,986	862,613	2,706,314	1,571,744	538,654	95,096	78,817	261,309	11,784,445
22 1950 Federal Report Surplus Deficit	77,051	326,606	382,429	2,104,336	1,695,238	2,087,396	847,847	500,643	1,798,889	2,318,740	2,123,290	876,669	841,173	536,098	16,516,405
23 1951 Federal Report Surplus Deficit	774,978	1,336,949	1,580,793	2,405,293	2,484,440	2,132,007	858,438	621,517	2,013,999	1,752,538	1,959,823	740,067	463,333	479,874	19,604,048
24 1952 Federal Report Surplus Deficit	1,222,323	896,743	1,044,722	2,027,267	1,863,350	1,283,710	753,578	1,036,489	2,703,450	1,841,582	1,819,657	605,905	292,468	388,495	17,779,737
25 1953 Federal Report Surplus Deficit	87,792	459,719	-27,107	781,602	2,125,407	654,898	-124,676	-32,932	1,708,316	2,300,236	2,100,212	597,957	554,993	572,158	11,758,576
26 1954 Federal Report Surplus Deficit	299,930	616,821	768,776	1,979,980	1,880,856	1,531,388	361,389	326,789	1,998,853	1,960,222	2,007,077	942,836	1,083,819	1,226,642	16,985,377
27 1955 Federal Report Surplus Deficit	575,890	989,432	740,270	607,237	561,078	111,948	190,713	-72,390	1,710,410	2,285,144	2,072,237	889,176	662,840	506,108	11,830,093
28 1956 Federal Report Surplus Deficit	451,322	1,139,153	1,638,954	2,500,992	2,226,703	1,953,888	760,571	1,115,282	2,314,395	2,241,399	1,953,668	771,099	782,290	469,737	20,319,454
29 1957 Federal Report Surplus Deficit	450,382	590,231	788,901	1,243,118	809,784	1,118,057	940,495	430,977	2,758,201	2,394,214	1,386,767	566,460	287,374	429,261	14,194,222
30 1958 Federal Report Surplus Deficit	107,022	412,345	202,172	1,660,174	1,691,227	1,112,502	143,632	516,505	2,666,361	2,120,689	1,174,997	509,262	318,488	477,845	13,113,219

Table 10.1.2
Federal Report Surplus Deficit By Water Year
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A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
31 1959 Federal Report Surplus Deficit	208,930	869,648	1,447,247	2,327,533	2,143,420	1,519,441	487,118	443,637	1,640,300	2,160,477	1,978,948	807,610	890,356	1,477,785	18,402,451
32 1960 Federal Report Surplus Deficit	2,029,757	1,652,164	1,304,813	1,725,335	1,484,123	1,080,415	987,317	638,980	1,719,177	1,856,119	1,680,862	688,906	308,314	447,574	17,603,855
33 1961 Federal Report Surplus Deficit	287,033	617,801	461,499	1,764,107	1,549,695	1,854,437	572,278	272,718	1,849,627	2,105,838	1,239,346	493,249	390,094	438,915	13,896,638
34 1962 Federal Report Surplus Deficit	4,303	463,221	473,899	1,301,691	1,706,960	297,523	415,314	710,820	1,701,604	1,837,826	1,195,266	599,620	474,073	506,085	11,688,203
35 1963 Federal Report Surplus Deficit	400,942	954,209	1,309,936	1,554,498	1,780,208	573,571	136,300	71,457	1,612,184	1,859,514	1,654,302	639,641	379,558	641,751	13,568,072
36 1964 Federal Report Surplus Deficit	236,946	376,533	438,176	783,252	1,249,080	239,047	316,741	176,851	1,694,346	2,403,768	2,106,631	853,346	783,597	821,055	12,479,367
37 1965 Federal Report Surplus Deficit	727,473	831,105	1,735,786	2,603,326	2,580,216	2,170,879	427,045	650,470	2,190,116	2,204,589	2,003,234	872,318	872,005	455,491	20,324,053
38 1966 Federal Report Surplus Deficit	381,788	437,227	509,111	1,201,789	1,510,218	671,219	465,413	346,535	1,449,409	1,511,331	1,556,854	595,232	285,973	431,481	11,353,581
39 1967 Federal Report Surplus Deficit	107,443	351,087	762,026	1,971,777	2,046,035	1,505,581	331,513	163,227	1,542,392	2,196,934	1,960,350	673,685	610,244	554,459	14,776,751
40 1968 Federal Report Surplus Deficit	328,498	764,889	573,540	1,805,148	1,635,967	1,781,028	-12,662	-151,665	1,474,301	1,796,754	1,701,889	702,587	580,059	983,767	13,964,100
41 1969 Federal Report Surplus Deficit	793,891	1,208,236	1,035,703	2,417,763	2,155,002	1,580,673	1,025,496	760,250	2,554,613	1,861,777	1,760,868	572,745	459,583	518,186	18,704,787
42 1970 Federal Report Surplus Deficit	240,651	621,350	251,733	1,386,695	1,808,543	762,945	-1,166	-133,621	1,885,175	2,481,029	742,488	386,097	308,545	439,916	11,180,380
43 1971 Federal Report Surplus Deficit	84,150	367,214	330,474	2,506,730	2,473,730	2,092,930	749,017	624,310	2,651,968	2,361,924	2,059,581	882,814	903,459	648,152	18,736,451
44 1972 Federal Report Surplus Deficit	413,278	663,641	715,392	2,461,956	2,246,303	2,379,882	1,131,517	521,501	2,120,513	2,215,454	1,974,905	903,305	988,519	686,919	19,423,083
45 1973 Federal Report Surplus Deficit	544,443	584,581	539,437	1,223,307	950,931	403,813	34,554	-234,781	1,133,255	1,017,320	522,777	287,554	90,201	269,770	7,367,164
46 1974 Federal Report Surplus Deficit	25,632	464,139	1,095,043	2,677,396	2,277,821	2,441,212	1,026,798	1,004,787	2,011,556	2,281,934	2,118,991	924,117	992,966	717,022	20,059,413
47 1975 Federal Report Surplus Deficit	208,206	397,826	275,662	1,593,681	1,601,656	1,562,056	138,245	219,411	1,727,563	2,590,252	2,209,773	664,291	640,524	696,991	14,526,139
48 1976 Federal Report Surplus Deficit	777,211	1,338,302	1,801,753	2,374,781	2,194,668	1,935,355	836,687	639,880	2,565,112	2,013,838	1,956,812	998,532	1,190,975	1,423,579	22,047,487
49 1977 Federal Report Surplus Deficit	570,138	371,638	41,516	383,713	596,404	-53,239	-174,659	-258,718	791,261	612,021	458,893	344,872	184,839	163,697	4,032,378
50 1978 Federal Report Surplus Deficit	-13,906	263,484	514,184	1,160,796	703,191	1,427,877	595,053	396,528	1,734,158	1,899,668	1,967,356	429,568	315,395	940,570	12,333,923
51 1979 Federal Report Surplus Deficit	564,952	552,616	104,446	1,066,072	510,322	932,352	234,653	107,755	2,178,540	1,294,749	492,633	234,485	138,969	461,341	8,873,887
52 1980 Federal Report Surplus Deficit	215,905	363,418	-205,196	1,006,210	206,537	378,134	125,898	584,123	2,432,756	2,038,570	1,199,945	265,152	215,521	407,877	9,234,850
53 1981 Federal Report Surplus Deficit	180,864	551,213	1,311,831	1,814,850	1,916,039	686,495	-93,696	94,234	1,765,068	2,230,926	1,890,997	845,597	885,487	625,382	14,705,287
54 1982 Federal Report Surplus Deficit	253,546	707,941	644,509	2,008,395	2,486,949	2,592,976	693,431	386,799	2,094,220	2,622,773	2,251,374	873,647	956,211	989,146	19,561,919
55 1983 Federal Report Surplus Deficit	789,408	745,763	909,798	2,094,338	1,875,598	2,517,464	508,455	317,517	1,741,203	1,886,082	2,061,766	848,756	720,936	668,174	17,685,260
56 1984 Federal Report Surplus Deficit	368,242	1,447,342	999,269	2,153,243	1,769,399	1,915,318	591,638	677,569	1,950,514	2,685,113	2,128,652	749,279	507,531	667,093	18,610,200
57 1985 Federal Report Surplus Deficit	419,138	673,810	511,926	1,206,188	1,058,855	581,060	347,098	367,183	1,730,737	1,138,082	673,387	134,354	76,942	338,505	9,257,265
58 1986 Federal Report Surplus Deficit	473,501	929,139	609,688	1,529,753	1,685,845	2,657,933	1,008,081	613,902	1,811,702	1,906,237	1,089,544	404,051	243,532	343,778	15,306,686
59 1987 Federal Report Surplus Deficit	47,725	575,561	537,639	853,453	442,586	792,417	172,336	470,275	1,713,726	1,171,841	290,419	149,610	58,349	218,627	7,494,566
60 1988 Federal Report Surplus Deficit	5,625	403,551	-94,821	-101,943	76,200	246,541	-59,496	186,052	1,026,893	1,156,785	1,023,270	322,139	209,379	452,902	4,853,077

Table 10.1.2
Federal Report Surplus Deficit By Water Year
Fiscal Year 2022

BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
61 1989 Federal Report Surplus Deficit	-27,311	510,110	328,429	461,072	-179,587	947,135	464,242	745,518	1,686,979	1,134,025	918,970	195,692	157,879	315,733	7,658,886
62 1990 Federal Report Surplus Deficit	145,293	545,442	864,350	1,587,469	1,757,378	1,385,600	408,331	596,989	1,487,494	1,925,298	1,827,607	734,276	498,696	390,491	14,154,715
63 1991 Federal Report Surplus Deficit	63,669	1,414,392	1,130,419	1,934,009	1,918,561	1,460,242	511,342	282,461	1,653,975	1,715,618	1,924,959	846,059	730,322	312,236	15,898,265
64 1992 Federal Report Surplus Deficit	232,295	454,680	-160,635	592,721	441,827	672,167	47,176	213,345	1,583,395	890,586	361,566	233,608	183,167	310,917	6,056,814
65 1993 Federal Report Surplus Deficit	-75,712	377,259	116,667	119,181	-358,083	473,226	313,621	-62,087	2,275,224	1,694,673	1,076,377	403,257	352,439	534,625	7,240,666
66 1994 Federal Report Surplus Deficit	107,872	469,047	108,561	139,746	468,783	294,253	-48,017	365,608	1,370,438	945,065	680,555	257,253	148,804	435,075	5,743,043
67 1995 Federal Report Surplus Deficit	61,435	324,763	171,446	827,145	838,206	1,685,409	236,539	-46,560	1,782,356	2,211,220	1,274,375	451,566	354,155	576,088	10,748,142
68 1996 Federal Report Surplus Deficit	712,653	1,729,746	2,073,246	2,598,468	2,527,744	2,541,250	679,507	981,361	2,064,023	2,537,797	2,015,098	828,415	413,527	507,622	22,210,455
69 1997 Federal Report Surplus Deficit	295,461	635,325	1,085,634	2,776,049	2,450,950	2,381,795	950,846	1,074,080	2,359,276	2,282,284	2,055,976	822,511	949,601	952,171	21,071,958
70 1998 Federal Report Surplus Deficit	1,593,160	1,085,342	507,128	1,259,768	1,730,221	995,809	121,425	135,928	2,442,564	2,249,576	1,855,174	777,512	539,705	483,717	15,777,028
71 1999 Federal Report Surplus Deficit	179,561	253,327	793,050	2,333,539	2,125,928	2,537,331	499,830	535,626	1,741,465	2,381,505	2,055,474	962,696	1,025,687	503,582	17,928,602
72 2000 Federal Report Surplus Deficit	191,238	1,385,104	1,297,021	1,775,204	1,490,107	1,518,051	628,804	780,603	1,706,446	910,000	1,592,759	558,952	184,986	266,263	14,285,538
73 2001 Federal Report Surplus Deficit	129,145	351,108	21,674	338,852	514,024	165,622	-171,027	-235,230	622,252	602,523	513,606	343,086	126,306	254,274	3,576,213
74 2002 Federal Report Surplus Deficit	-111,396	219,280	266,137	289,517	224,699	483,574	292,821	662,217	1,551,193	2,100,026	1,916,294	404,609	365,968	396,246	9,061,186
75 2003 Federal Report Surplus Deficit	133,430	504,523	13,827	441,915	583,133	1,381,899	290,869	421,198	1,216,197	1,820,696	621,163	137,261	151,150	268,958	7,986,220
76 2004 Federal Report Surplus Deficit	20,632	641,037	555,804	858,874	607,951	476,725	242,376	234,472	1,122,848	1,519,026	748,835	110,127	261,169	390,535	7,790,412
77 2005 Federal Report Surplus Deficit	524,462	697,297	920,267	1,320,404	1,403,092	658,172	-73,916	-52,205	1,128,841	1,354,473	1,170,835	335,788	186,270	396,093	9,969,873
78 2006 Federal Report Surplus Deficit	-55,592	714,357	531,341	2,004,465	2,067,635	1,178,622	899,570	692,124	2,566,201	1,965,393	1,365,872	299,183	187,160	279,390	14,695,720
79 2007 Federal Report Surplus Deficit	16,165	504,699	554,845	1,657,526	1,159,898	1,996,050	713,209	377,919	1,706,881	1,463,538	1,497,921	251,577	129,838	163,910	12,193,978
80 2008 Federal Report Surplus Deficit	19,395	566,431	98,251	1,142,980	703,725	806,128	116,619	-86,153	2,084,914	2,416,731	1,873,888	377,989	494,074	463,651	11,078,625

Table 10.1.2
Federal Report Surplus Deficit By Water Year
Fiscal Year 2023

BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
1 1929 Federal Report Surplus Deficit	380,391	455,185	144,677	130,365	199,353	180,019	-61,978	-138,282	101,410	1,250,717	219,628	243,837	211,707	501,391	3,818,421
2 1930 Federal Report Surplus Deficit	169,135	467,121	33,265	28,215	64,753	4,350	-105,630	-116,678	567,444	536,401	795,079	301,246	247,269	450,870	3,442,841
3 1931 Federal Report Surplus Deficit	170,973	495,868	177,309	-180,809	107,085	234,850	-32,542	-169,094	507,134	529,961	860,415	396,382	234,056	398,264	3,729,852
4 1932 Federal Report Surplus Deficit	144,800	327,694	128,612	93,935	-348,502	1,050,318	719,356	686,117	1,844,254	1,925,970	1,356,688	412,023	460,267	463,762	9,265,293
5 1933 Federal Report Surplus Deficit	331,287	355,342	896,272	1,711,902	1,637,369	1,187,507	314,715	146,965	1,363,838	2,354,785	2,004,964	814,766	853,663	524,804	14,498,179
6 1934 Federal Report Surplus Deficit	682,760	1,679,503	2,133,883	2,530,034	2,136,672	1,905,979	1,030,248	862,331	1,668,899	1,323,563	518,056	242,118	277,278	311,136	17,302,459
7 1935 Federal Report Surplus Deficit	171,424	150,714	388,100	1,454,451	1,547,486	905,907	62,046	163,701	1,214,559	1,131,966	1,630,390	752,492	299,023	315,863	10,188,124
8 1936 Federal Report Surplus Deficit	278,270	447,841	137,993	-114,542	-287,139	361,254	-103,238	622,709	2,165,429	1,555,994	1,304,344	332,532	269,457	360,416	7,331,318
9 1937 Federal Report Surplus Deficit	247,887	530,415	150,288	-363,185	-350,638	-3,984	-96,719	-124,569	663,517	972,830	590,193	270,566	158,046	373,343	3,017,990
10 1938 Federal Report Surplus Deficit	277,411	537,362	545,436	1,704,133	723,486	1,542,114	471,835	839,466	1,615,142	1,666,806	1,657,315	219,925	176,744	432,303	12,409,479
11 1939 Federal Report Surplus Deficit	317,347	384,757	25,288	641,461	807,301	449,283	111,558	301,969	1,443,815	877,556	981,996	326,741	228,243	404,833	7,302,148
12 1940 Federal Report Surplus Deficit	230,661	488,671	155,108	1,027,294	520,356	1,182,145	392,284	277,873	1,194,057	888,030	521,847	158,433	142,097	257,232	7,436,090
13 1941 Federal Report Surplus Deficit	239,770	597,029	495,722	207,217	82,323	266,078	73,566	57,727	802,486	747,787	676,468	318,421	229,592	298,920	5,093,107
14 1942 Federal Report Surplus Deficit	249,004	625,500	1,359,552	1,511,103	1,051,291	202,627	-102,657	292,015	723,715	1,638,195	1,789,235	445,644	416,283	443,730	10,645,237
15 1943 Federal Report Surplus Deficit	274,818	345,283	500,711	1,818,138	1,717,463	1,312,110	1,220,324	1,144,501	1,607,718	2,301,212	2,255,378	552,702	440,887	351,937	15,843,181
16 1944 Federal Report Surplus Deficit	171,392	450,166	33,295	57,432	475,800	15,141	-202,889	-236,831	277,334	376,254	410,501	311,060	117,925	276,589	2,533,169
17 1945 Federal Report Surplus Deficit	187,136	449,420	123,564	-66,998	-72,795	130,158	-137,248	-159,510	1,125,421	1,857,229	422,713	335,822	203,792	420,105	4,818,809
18 1946 Federal Report Surplus Deficit	139,467	403,834	537,454	1,210,499	878,712	1,390,703	727,567	856,004	1,840,512	1,614,165	1,891,206	667,385	681,877	442,891	13,282,275
19 1947 Federal Report Surplus Deficit	214,129	735,847	1,888,614	2,014,448	2,040,466	1,677,308	362,264	317,764	1,850,654	1,583,247	1,800,796	547,841	352,381	485,642	15,871,400
20 1948 Federal Report Surplus Deficit	1,438,879	1,264,344	1,130,042	2,185,231	1,859,364	818,721	233,262	789,346	2,563,133	2,422,577	1,762,731	835,437	928,569	585,435	18,817,071
21 1949 Federal Report Surplus Deficit	501,151	674,288	335,146	1,348,824	638,425	1,686,246	437,149	879,363	2,369,868	1,410,612	506,731	74,189	58,447	224,761	11,145,202
22 1950 Federal Report Surplus Deficit	141,689	385,936	547,428	2,053,772	1,614,510	1,947,127	839,228	499,796	1,455,591	2,164,424	2,203,651	851,479	830,107	501,387	16,036,125
23 1951 Federal Report Surplus Deficit	852,443	1,388,688	1,888,309	2,389,159	2,433,894	1,951,425	831,770	648,930	1,753,575	1,600,900	2,002,367	721,230	444,454	444,211	19,351,354
24 1952 Federal Report Surplus Deficit	1,298,970	960,061	1,191,448	1,976,888	1,790,160	1,209,748	731,286	1,073,293	2,505,539	1,716,016	1,831,892	589,513	281,740	352,749	17,509,303
25 1953 Federal Report Surplus Deficit	152,691	528,233	116,476	676,702	2,055,480	600,720	-151,903	-15,392	1,334,656	2,318,990	2,167,495	581,424	539,228	536,487	11,441,287
26 1954 Federal Report Surplus Deficit	369,207	683,990	909,275	1,975,413	1,870,439	1,429,170	313,284	332,983	1,805,659	1,871,314	2,058,036	924,163	1,069,981	1,193,905	16,806,818
27 1955 Federal Report Surplus Deficit	653,806	1,052,383	892,501	479,333	513,476	68,169	158,727	-52,097	1,322,109	2,213,309	2,207,219	831,053	655,718	469,922	11,465,627
28 1956 Federal Report Surplus Deficit	524,241	1,196,567	1,887,405	2,539,706	2,115,696	1,795,235	743,259	1,170,371	2,310,978	2,376,415	2,018,006	749,559	767,660	434,185	20,629,284
29 1957 Federal Report Surplus Deficit	525,722	656,899	927,094	1,085,867	1,134,928	861,570	862,769	290,445	2,576,228	2,283,705	1,357,262	551,941	273,366	393,169	13,780,966
30 1958 Federal Report Surplus Deficit	170,554	472,854	350,637	1,523,413	1,593,173	1,047,554	101,552	521,456	2,335,711	1,985,941	1,145,908	492,827	306,666	443,023	12,491,269

Table 10.1.2
Federal Report Surplus Deficit By Water Year
Fiscal Year 2023

BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
31 1959 Federal Report Surplus Deficit	277,590	925,475	1,657,263	2,438,809	2,204,507	1,436,081	445,991	466,855	1,316,383	2,109,095	2,049,526	784,109	874,151	1,442,778	18,428,613
32 1960 Federal Report Surplus Deficit	2,104,335	1,735,323	1,565,960	1,659,367	1,401,439	1,016,851	964,726	661,490	1,425,736	1,752,160	1,714,582	668,250	285,353	412,711	17,368,281
33 1961 Federal Report Surplus Deficit	353,991	683,886	623,590	1,645,029	1,466,795	1,715,553	543,395	299,159	1,611,525	2,130,635	1,211,596	476,042	371,695	404,111	13,536,999
34 1962 Federal Report Surplus Deficit	70,280	520,632	632,718	1,199,935	1,633,668	234,622	378,300	734,058	1,458,536	1,783,041	1,165,232	582,470	456,968	471,940	11,322,400
35 1963 Federal Report Surplus Deficit	477,314	1,009,137	1,505,996	1,411,354	1,694,064	505,107	91,850	89,050	1,292,852	1,709,488	1,630,616	622,548	364,359	607,324	13,011,061
36 1964 Federal Report Surplus Deficit	304,595	431,047	598,058	651,015	1,205,933	185,807	292,936	196,437	1,382,442	2,533,387	2,187,213	832,597	768,936	782,587	12,352,989
37 1965 Federal Report Surplus Deficit	809,186	898,858	1,981,806	2,634,143	2,656,499	1,971,730	376,552	647,654	2,026,898	1,958,546	2,040,777	853,357	859,958	420,206	20,136,169
38 1966 Federal Report Surplus Deficit	457,513	497,802	682,423	1,050,912	1,452,585	612,245	430,388	362,592	1,097,106	1,397,916	1,524,657	579,494	270,689	398,090	10,814,411
39 1967 Federal Report Surplus Deficit	174,709	407,861	911,265	2,041,353	2,103,348	1,451,173	293,322	183,637	1,214,680	2,158,860	2,030,619	655,265	587,799	520,529	14,734,422
40 1968 Federal Report Surplus Deficit	400,484	830,983	734,679	1,662,395	1,551,950	1,684,027	-45,362	-119,148	1,124,705	1,679,328	1,700,570	685,819	566,694	947,001	13,404,125
41 1969 Federal Report Surplus Deficit	872,392	1,262,770	1,191,229	2,494,936	2,166,720	1,451,648	995,907	821,319	2,224,479	1,756,691	1,820,302	556,793	441,916	485,011	18,542,113
42 1970 Federal Report Surplus Deficit	308,912	688,655	397,829	1,228,800	1,727,679	700,945	-46,790	-104,812	1,526,029	2,326,147	716,033	369,259	294,780	401,467	10,534,933
43 1971 Federal Report Surplus Deficit	151,845	424,694	481,710	2,403,100	2,489,587	1,947,273	705,633	634,525	2,489,831	2,474,693	2,186,427	862,946	896,357	613,812	18,762,433
44 1972 Federal Report Surplus Deficit	488,529	728,767	869,255	2,470,136	2,192,692	2,417,141	1,103,738	545,251	2,112,547	2,404,672	2,043,650	890,237	964,914	653,527	19,885,057
45 1973 Federal Report Surplus Deficit	623,312	644,936	697,593	1,075,925	915,576	343,075	-3,133	-203,060	788,102	748,456	486,826	269,321	72,133	233,180	6,692,245
46 1974 Federal Report Surplus Deficit	89,607	522,447	1,254,389	2,720,654	2,332,058	2,226,225	981,183	1,005,517	1,964,638	2,343,187	2,214,977	912,107	971,397	680,499	20,218,885
47 1975 Federal Report Surplus Deficit	274,768	455,746	421,657	1,442,844	1,539,874	1,464,511	96,257	231,880	1,306,896	2,477,182	2,320,207	645,329	626,803	661,597	13,965,550
48 1976 Federal Report Surplus Deficit	850,690	1,391,464	2,161,822	2,456,350	2,168,251	1,856,437	823,283	666,119	2,338,778	1,875,655	2,034,358	985,750	1,189,093	1,394,870	22,192,923
49 1977 Federal Report Surplus Deficit	646,902	428,431	187,722	258,035	559,522	-104,418	-204,038	-232,658	478,055	308,278	420,494	326,005	162,956	125,924	3,361,210
50 1978 Federal Report Surplus Deficit	53,202	320,849	655,220	1,067,477	664,699	1,366,283	556,552	426,721	1,538,147	1,629,594	1,982,457	414,369	294,604	904,334	11,874,509
51 1979 Federal Report Surplus Deficit	639,917	618,130	248,360	929,689	450,267	882,970	189,358	133,171	1,804,795	1,039,895	461,959	214,885	119,609	425,277	8,158,283
52 1980 Federal Report Surplus Deficit	281,883	427,072	-68,918	868,503	170,992	319,092	85,118	603,334	2,261,025	1,929,452	1,167,249	246,656	199,810	373,219	8,864,488
53 1981 Federal Report Surplus Deficit	248,547	615,947	1,576,981	1,886,653	1,954,504	608,804	-128,535	110,245	1,372,124	2,156,411	1,961,316	831,044	872,930	587,233	14,654,203
54 1982 Federal Report Surplus Deficit	321,612	775,469	790,446	1,846,541	2,434,702	2,428,606	654,890	378,774	1,827,265	2,368,848	2,286,647	855,262	933,559	952,114	18,854,734
55 1983 Federal Report Surplus Deficit	866,990	809,787	1,052,748	1,942,530	1,761,682	2,246,091	474,409	329,943	1,448,827	1,657,752	2,156,567	829,719	705,666	631,952	16,914,664
56 1984 Federal Report Surplus Deficit	440,075	1,499,947	1,142,562	2,008,429	1,668,100	1,761,481	552,222	680,452	1,618,189	2,580,195	2,207,841	731,426	493,180	632,183	18,016,280
57 1985 Federal Report Surplus Deficit	494,463	734,448	679,935	1,115,795	1,011,181	525,613	310,098	394,618	1,470,508	897,435	640,599	113,266	57,717	305,362	8,751,037
58 1986 Federal Report Surplus Deficit	548,449	989,330	786,820	1,483,396	1,827,873	2,221,252	981,008	619,240	1,464,421	1,819,126	1,051,953	386,179	224,354	306,486	14,709,886
59 1987 Federal Report Surplus Deficit	111,661	640,532	714,958	713,948	391,773	746,599	136,927	474,933	1,525,947	920,172	253,067	129,030	38,031	181,457	6,979,036
60 1988 Federal Report Surplus Deficit	70,935	469,145	47,534	-174,540	-4,419	194,132	-99,714	203,983	685,734	871,474	991,084	304,018	192,711	416,299	4,168,376

Table 10.1.2
Federal Report Surplus Deficit By Water Year
Fiscal Year 2023

BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
HLH-MWh - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
61 1989 Federal Report Surplus Deficit	41,015	576,665	488,468	382,083	-221,165	878,858	415,508	763,879	1,379,976	875,703	890,213	173,581	137,268	280,887	7,062,940
62 1990 Federal Report Surplus Deficit	212,168	609,817	1,011,201	1,574,347	1,742,150	1,307,040	363,082	611,196	1,148,818	1,766,194	1,886,149	714,265	483,959	354,501	13,784,886
63 1991 Federal Report Surplus Deficit	130,778	1,468,328	1,331,490	1,951,949	1,981,213	1,425,160	470,361	281,023	1,346,684	1,549,453	1,934,009	832,585	712,416	277,240	15,692,690
64 1992 Federal Report Surplus Deficit	298,301	514,407	-21,673	463,715	406,870	618,546	11,692	230,232	1,267,271	587,912	321,949	214,951	163,692	276,096	5,353,962
65 1993 Federal Report Surplus Deficit	-8,865	438,078	268,784	16,260	-384,945	397,731	264,846	-50,076	1,961,573	1,446,384	1,017,057	388,661	342,743	498,724	6,596,955
66 1994 Federal Report Surplus Deficit	174,333	532,081	261,817	70,425	382,514	244,000	-92,534	370,861	1,043,213	653,882	646,596	236,596	128,117	397,569	5,049,470
67 1995 Federal Report Surplus Deficit	126,789	383,558	322,497	686,960	801,878	1,562,424	205,311	-27,018	1,455,623	2,091,559	1,239,149	436,487	336,386	538,076	10,159,679
68 1996 Federal Report Surplus Deficit	790,131	1,816,154	2,472,622	2,697,237	2,566,177	2,317,177	649,843	1,002,363	1,816,171	2,314,379	2,085,851	805,542	394,910	469,485	22,198,041
69 1997 Federal Report Surplus Deficit	364,341	702,036	1,233,469	2,754,964	2,601,504	2,247,147	911,141	1,099,379	2,359,013	2,445,223	2,106,557	806,422	935,494	914,772	21,481,464
70 1998 Federal Report Surplus Deficit	1,674,401	1,149,129	678,834	1,343,523	1,487,507	916,647	78,859	144,779	2,107,169	2,171,159	1,830,999	758,864	518,895	448,959	15,309,724
71 1999 Federal Report Surplus Deficit	246,511	304,064	939,122	2,252,135	2,048,709	2,344,607	468,582	544,965	1,413,986	2,219,772	2,116,999	949,933	1,013,711	467,614	17,330,711
72 2000 Federal Report Surplus Deficit	260,471	1,447,537	1,528,067	1,657,400	1,410,857	1,439,600	597,418	802,569	1,411,172	634,086	1,581,870	544,548	166,982	230,247	13,712,826
73 2001 Federal Report Surplus Deficit	195,155	407,513	167,651	213,553	477,768	110,398	-205,632	-204,729	300,018	305,699	481,682	323,533	103,139	218,700	2,894,449
74 2002 Federal Report Surplus Deficit	-43,640	281,302	419,074	215,038	191,048	418,642	245,630	675,054	1,273,720	1,984,037	1,979,006	386,960	348,456	362,802	8,737,127
75 2003 Federal Report Surplus Deficit	199,764	568,788	161,750	372,289	489,567	1,325,320	262,865	437,316	916,923	1,748,806	586,679	115,942	130,499	231,778	7,548,287
76 2004 Federal Report Surplus Deficit	88,260	711,239	726,218	725,677	569,840	408,512	209,371	247,036	811,757	1,247,102	712,408	89,198	240,222	354,638	7,141,479
77 2005 Federal Report Surplus Deficit	598,218	762,871	1,063,598	1,184,301	1,391,121	594,377	-110,605	-31,673	811,926	1,129,994	1,143,045	316,812	161,823	358,128	9,373,937
78 2006 Federal Report Surplus Deficit	12,673	782,078	694,578	1,883,413	2,059,966	1,121,434	877,683	692,055	2,233,053	1,855,817	1,336,967	282,226	169,312	242,407	14,243,660
79 2007 Federal Report Surplus Deficit	79,496	569,039	723,801	1,544,201	1,112,400	1,831,603	679,241	410,250	1,368,978	1,322,088	1,464,203	233,943	109,989	126,883	11,576,115
80 2008 Federal Report Surplus Deficit	84,594	631,023	246,041	1,038,146	667,908	749,058	86,488	-65,115	1,746,104	2,326,795	1,859,114	361,036	475,939	428,376	10,635,507

Table 10.1.3
Federal Report Surplus Deficit By Water Year
Fiscal Year 2022

BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
1 1929 Federal Report Surplus Deficit	-160,846	-40,313	-244,228	-431,068	-217,792	-113,985	-104,271	-141,249	-175,628	236,213	-212,234	-71,374	-37,713	-10,169	-1,724,658
2 1930 Federal Report Surplus Deficit	-224,290	-53,141	-320,212	-472,221	-198,387	-207,316	-122,665	-111,338	-90,133	-74,644	-158,688	-64,719	-25,106	-41,067	-2,163,929
3 1931 Federal Report Surplus Deficit	-219,340	-18,610	-242,377	-570,851	-239,001	-116,660	-64,237	-150,397	-122,628	-112,633	-171,861	-60,336	-42,539	-71,512	-2,202,981
4 1932 Federal Report Surplus Deficit	-239,280	-114,279	-257,062	-415,284	-388,489	442,059	246,047	241,982	771,149	1,213,639	98,536	-37,709	45,250	-17,159	1,589,401
5 1933 Federal Report Surplus Deficit	-184,643	-25,996	139,734	198,391	740,974	262,399	165,810	-95,201	543,941	1,829,268	1,432,285	187,218	263,132	16,463	5,473,776
6 1934 Federal Report Surplus Deficit	-78,305	644,070	1,726,139	1,773,224	1,628,289	747,301	651,910	450,390	1,253,148	878,321	-238,236	-94,651	-64,969	-122,168	9,154,463
7 1935 Federal Report Surplus Deficit	-237,039	-185,628	-123,281	72,125	741,410	102,566	-41,585	-84,921	421,004	303,554	239,214	130,426	-9,196	-74,252	1,254,398
8 1936 Federal Report Surplus Deficit	-197,868	-69,325	-257,578	-521,864	-391,900	56,493	-99,350	187,934	1,086,803	977,062	56,124	-68,259	-7,201	-60,288	690,783
9 1937 Federal Report Surplus Deficit	-199,895	-9,524	-248,572	-632,803	-421,034	-227,562	-102,778	-137,093	18,641	60,016	-222,956	-81,449	-55,238	-70,748	-2,330,994
10 1938 Federal Report Surplus Deficit	-202,109	50,160	2,859	175,229	61,533	517,063	250,504	435,385	776,690	663,338	263,393	-90,516	-76,088	-13,669	2,813,773
11 1939 Federal Report Surplus Deficit	-174,255	-99,627	-308,979	-229,793	22,551	79,543	-15,434	-30,834	406,835	8,422	-87,564	-69,780	-32,865	-43,006	-574,787
12 1940 Federal Report Surplus Deficit	-196,166	-8,542	-216,556	-120,950	-708	414,363	91,738	-29,304	109,499	32,075	-259,162	-115,310	-69,378	-78,162	-446,563
13 1941 Federal Report Surplus Deficit	-202,779	82,153	-29,731	-372,452	-256,569	-32,118	-62,192	-112,777	-36,041	3,131	-160,854	-64,063	-7,467	-24,744	-1,276,502
14 1942 Federal Report Surplus Deficit	-180,841	103,980	342,293	117,868	174,140	-71,432	-86,467	-27,684	-22,903	1,013,600	362,216	16,657	82,890	26,073	1,850,389
15 1943 Federal Report Surplus Deficit	-198,289	-16,381	19,649	320,439	647,928	473,983	661,376	487,389	705,150	1,415,094	992,905	37,760	57,627	-58,268	5,546,360
16 1944 Federal Report Surplus Deficit	-212,397	-28,624	-273,971	-454,012	-100,179	-222,311	-147,395	-174,157	-177,395	-92,938	-235,010	-74,842	-44,368	-80,736	-2,318,335
17 1945 Federal Report Surplus Deficit	-208,317	-56,633	-237,737	-513,326	-293,640	-113,313	-144,005	-157,161	213,406	1,023,336	-141,463	-57,727	-26,099	-19,597	-732,276
18 1946 Federal Report Surplus Deficit	-215,526	-30,803	21,460	98,610	179,042	475,895	352,484	421,625	1,060,115	1,029,656	514,952	52,030	121,293	3,575	4,084,409
19 1947 Federal Report Surplus Deficit	-185,358	208,883	673,530	788,533	873,435	636,477	88,424	3,974	622,522	925,967	410,425	15,271	238	16,829	5,079,148
20 1948 Federal Report Surplus Deficit	280,156	459,576	269,662	620,449	810,770	176,538	31,042	343,051	1,725,971	1,939,374	355,107	162,902	299,052	71,171	7,544,821
21 1949 Federal Report Surplus Deficit	-129,954	111,896	-135,242	247,885	-3,399	601,954	104,404	420,179	1,120,305	476,956	-195,656	-118,721	-87,308	-114,990	2,298,310
22 1950 Federal Report Surplus Deficit	-230,684	-45,615	14,325	901,303	469,546	771,782	433,789	214,377	475,761	1,613,222	2,011,692	222,926	238,507	24,175	7,115,106
23 1951 Federal Report Surplus Deficit	82,657	547,447	848,936	1,422,403	1,636,224	997,173	417,580	310,548	888,751	695,648	1,252,464	87,534	38,394	17,849	9,243,607
24 1952 Federal Report Surplus Deficit	260,208	280,379	281,818	471,565	748,121	429,136	326,374	434,813	1,451,561	663,362	406,258	30,139	-19,356	-68,536	5,695,841
25 1953 Federal Report Surplus Deficit	-209,425	5,085	-261,178	-92,827	919,855	83,013	-121,938	-126,438	283,294	1,833,661	869,365	47,594	102,011	36,571	3,368,644
26 1954 Federal Report Surplus Deficit	-168,566	135,073	165,017	625,053	859,983	496,112	107,063	94,366	1,131,605	1,616,672	1,888,432	462,328	621,452	418,011	8,452,601
27 1955 Federal Report Surplus Deficit	-67,929	284,914	145,309	-301,186	-120,866	-226,750	-22,624	-103,871	175,808	1,701,885	1,765,031	256,952	210,530	13,436	3,710,638
28 1956 Federal Report Surplus Deficit	-118,443	428,552	710,473	1,581,438	1,160,992	860,147	360,774	851,845	1,638,797	1,819,990	1,054,617	137,442	193,993	14,239	10,694,856
29 1957 Federal Report Surplus Deficit	-103,287	101,656	185,835	-31,726	95,012	466,410	515,240	148,711	1,529,218	1,847,168	93,333	8,686	-39,373	-42,757	4,774,125
30 1958 Federal Report Surplus Deficit	-191,719	-28,568	-87,002	261,358	398,258	256,779	-47,591	152,594	1,018,102	1,399,746	-19,210	-14,001	-34,829	-32,290	3,031,627

Table 10.1.3
Federal Report Surplus Deficit By Water Year
Fiscal Year 2022

BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
31 1959 Federal Report Surplus Deficit	-184,367	303,587	490,999	1,196,197	1,343,033	556,400	144,654	124,772	525,807	1,545,676	1,304,787	121,017	241,444	580,393	8,294,401
32 1960 Federal Report Surplus Deficit	622,172	672,761	506,505	211,428	437,125	234,104	384,964	190,892	476,804	970,961	329,278	52,098	-33,489	-41,226	5,014,377
33 1961 Federal Report Surplus Deficit	-176,219	136,764	23,131	525,848	329,844	566,076	218,337	-53,401	968,441	1,797,050	14,421	-24,835	-11,545	-59,066	4,254,848
34 1962 Federal Report Surplus Deficit	-255,031	22,598	12,863	8,163	632,882	-42,129	122,511	280,039	634,810	873,698	6,758	31,566	38,748	-19,671	2,347,804
35 1963 Federal Report Surplus Deficit	-91,310	313,290	376,539	107,150	621,184	37,219	-38,834	-92,672	225,040	855,854	253,684	59,342	24,657	90,021	2,741,164
36 1964 Federal Report Surplus Deficit	-169,651	629	13,517	-263,131	269,361	-69,149	81,780	-59,251	488,906	1,819,760	1,515,652	171,672	192,376	203,317	4,195,788
37 1965 Federal Report Surplus Deficit	-6,523	211,999	801,572	1,456,919	1,851,909	997,856	156,089	197,651	1,408,430	913,359	610,841	190,045	260,810	39,054	9,090,011
38 1966 Federal Report Surplus Deficit	-103,708	-18,787	94,684	-75,602	476,771	35,086	82,383	-7,413	82,073	719,753	194,273	10,408	-35,041	-47,957	1,406,923
39 1967 Federal Report Surplus Deficit	-212,486	-30,154	155,089	686,122	1,266,168	469,282	113,127	-23,278	365,226	1,740,493	1,034,284	70,452	88,808	15,050	5,738,183
40 1968 Federal Report Surplus Deficit	-124,394	207,244	113,126	437,810	378,878	620,413	-87,469	-116,169	147,816	1,029,534	337,697	118,494	133,968	327,177	3,524,124
41 1969 Federal Report Surplus Deficit	51,622	447,741	298,992	1,013,094	1,289,956	630,307	490,328	579,933	1,111,420	1,032,731	453,354	9,738	24,276	-38,730	7,394,763
42 1970 Federal Report Surplus Deficit	-175,473	96,607	-113,917	103,963	690,815	155,952	-53,620	-96,796	334,372	1,619,754	14,837	-33,490	3,174	7,115	2,553,294
43 1971 Federal Report Surplus Deficit	-181,402	9,539	-10,724	1,101,576	1,791,042	801,341	294,479	312,307	1,487,824	1,814,144	1,131,290	196,917	379,699	73,102	9,201,134
44 1972 Federal Report Surplus Deficit	-65,483	190,101	197,855	1,267,048	791,299	1,806,599	613,121	222,325	1,563,634	1,860,584	1,303,096	247,712	407,438	121,323	10,526,654
45 1973 Federal Report Surplus Deficit	-6,854	107,986	87,613	-71,550	98,659	-67,824	-80,057	-171,765	-30,178	18,374	-219,538	-84,763	-97,155	-95,857	-612,908
46 1974 Federal Report Surplus Deficit	-223,986	132,907	356,750	2,055,544	1,722,145	1,290,120	479,605	536,420	1,400,414	1,809,954	2,010,420	266,946	433,281	94,502	12,365,023
47 1975 Federal Report Surplus Deficit	-177,740	-23,976	-67,848	96,763	477,637	476,319	-2,726	9,133	383,373	1,676,415	1,290,635	79,815	165,499	138,844	4,522,144
48 1976 Federal Report Surplus Deficit	104,884	489,876	1,271,363	1,048,376	1,261,090	807,827	384,357	299,061	1,312,157	929,565	1,244,662	572,729	910,228	530,720	11,166,895
49 1977 Federal Report Surplus Deficit	-21,638	-35,452	-186,450	-358,902	-69,819	-274,482	-152,310	-172,291	-137,573	-186,971	-293,060	-83,929	-43,613	-129,620	-2,146,111
50 1978 Federal Report Surplus Deficit	-263,189	-75,589	156,869	59,059	120,012	461,451	111,796	45,392	861,382	623,735	534,823	-23,914	1,742	261,935	2,875,503
51 1979 Federal Report Surplus Deficit	-66,752	47,802	-200,407	-109,337	-105,465	210,312	-25,031	-119,993	581,068	105,114	-221,242	-99,685	-69,182	-39,100	-111,897
52 1980 Federal Report Surplus Deficit	-191,801	-54,374	-343,566	-107,523	-142,762	-27,189	-65,560	136,018	1,375,010	1,169,120	11,376	-80,805	-55,717	-22,282	1,599,946
53 1981 Federal Report Surplus Deficit	-194,293	74,216	478,748	808,314	1,084,716	54,075	-114,845	-98,921	328,805	1,850,558	879,965	235,835	272,346	39,471	5,698,990
54 1982 Federal Report Surplus Deficit	-185,603	140,257	136,271	625,252	1,279,197	1,512,602	302,170	137,450	808,425	1,508,430	1,647,156	168,681	360,567	294,736	8,735,593
55 1983 Federal Report Surplus Deficit	82,476	185,836	229,555	793,437	561,968	1,434,860	240,835	117,125	417,909	718,675	1,260,254	154,059	173,592	105,076	6,475,658
56 1984 Federal Report Surplus Deficit	-77,340	555,757	283,530	418,934	655,092	772,317	214,062	154,161	439,500	1,578,869	944,848	106,828	78,515	144,259	6,269,334
57 1985 Federal Report Surplus Deficit	-49,351	224,529	96,312	43,317	155,210	62,770	80,488	52,866	444,384	209,715	-214,634	-113,049	-117,099	5,268	880,725
58 1986 Federal Report Surplus Deficit	-63,792	316,050	147,762	135,910	840,138	1,608,711	320,762	180,197	278,904	1,001,058	-42,241	-39,876	-40,313	-33,142	4,610,129
59 1987 Federal Report Surplus Deficit	-210,490	141,502	132,451	-200,805	-127,655	88,323	-32,684	14,623	751,814	106,325	-301,867	-116,679	-107,739	-117,024	20,096
60 1988 Federal Report Surplus Deficit	-242,697	-20,385	-296,231	-565,161	-269,981	-113,032	-111,003	-62,261	-86,122	9,636	-124,983	-84,552	-57,454	-58,742	-2,082,968

Table 10.13
Federal Report Surplus Deficit By Water Year
Fiscal Year 2022

BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
61 1989 Federal Report Surplus Deficit	-264,919	58,390	-19,411	-283,120	-356,382	324,468	126,541	336,670	471,317	100,120	-136,110	-99,857	-59,570	-69,187	128,950
62 1990 Federal Report Surplus Deficit	-201,615	75,476	223,090	229,048	813,174	377,231	36,814	185,287	258,178	1,213,466	789,509	110,776	89,703	-41,914	4,158,225
63 1991 Federal Report Surplus Deficit	-241,581	535,671	335,902	480,421	1,236,947	436,975	259,897	35,644	512,260	815,790	1,271,250	204,372	168,308	-58,664	5,993,193
64 1992 Federal Report Surplus Deficit	-187,222	37,543	-304,265	-255,514	-96,590	51,475	-71,855	-100,305	216,332	-96,178	-262,445	-88,442	-48,887	-86,293	-1,292,646
65 1993 Federal Report Surplus Deficit	-282,425	-73,351	-209,256	-470,910	-447,073	38,353	50,741	-144,206	588,687	415,387	86,402	-6,322	90,944	50,889	-312,139
66 1994 Federal Report Surplus Deficit	-220,438	-20,964	-184,780	-486,694	-130,544	-87,433	-106,954	-38,222	35,261	-110,898	-183,243	-90,751	-72,520	-60,240	-1,758,421
67 1995 Federal Report Surplus Deficit	-243,081	-85,579	-134,228	-153,333	204,145	476,509	19,261	-121,282	280,126	1,339,481	171,137	-6,001	17,389	58,074	1,822,617
68 1996 Federal Report Surplus Deficit	5,887	767,410	2,132,578	1,828,473	1,784,711	1,619,690	212,597	536,133	910,300	1,383,288	1,306,265	139,988	13,648	16,098	12,657,065
69 1997 Federal Report Surplus Deficit	-162,717	170,953	296,691	1,739,472	2,069,710	1,281,211	553,236	737,419	1,781,725	1,910,807	1,407,280	162,848	430,586	275,123	12,654,344
70 1998 Federal Report Surplus Deficit	386,297	353,304	97,242	-31,839	663,229	212,588	-51,152	-65,629	721,925	1,260,254	403,258	145,758	102,932	47,326	4,245,491
71 1999 Federal Report Surplus Deficit	-160,874	-55,792	197,171	1,084,140	776,953	1,398,356	240,095	261,613	412,976	1,232,969	1,538,783	424,955	495,105	14,414	7,860,863
72 2000 Federal Report Surplus Deficit	-190,673	503,476	421,434	283,087	310,228	443,868	317,086	343,122	550,799	101,192	250,694	3,595	-68,972	-99,936	3,168,999
73 2001 Federal Report Surplus Deficit	-190,371	-65,403	-208,792	-357,783	-118,475	-151,173	-153,437	-179,423	-163,395	-175,726	-254,449	-76,177	-58,485	-121,802	-2,274,891
74 2002 Federal Report Surplus Deficit	-267,684	-145,640	-63,620	-326,795	-122,513	43,821	73,356	230,131	443,512	1,362,661	821,180	-16,128	51,139	-54,245	2,029,174
75 2003 Federal Report Surplus Deficit	-213,216	8,958	-248,466	-326,329	-43,183	361,090	42,735	38,247	21,874	916,560	-201,312	-111,323	-67,974	-110,316	67,347
76 2004 Federal Report Surplus Deficit	-252,942	110,990	97,908	-163,513	-28,683	13,514	-23,966	-56,961	-7,718	296,617	-138,680	-102,568	6,713	25,115	-224,175
77 2005 Federal Report Surplus Deficit	-88,477	129,144	212,693	-20,925	538,515	21,221	-111,832	-119,961	68,854	212,520	-4,601	-57,355	-49,044	-28,007	702,745
78 2006 Federal Report Surplus Deficit	-274,825	148,337	98,407	358,696	1,120,564	302,187	477,488	290,932	934,814	1,203,228	69,318	-80,282	-81,359	-89,685	4,477,820
79 2007 Federal Report Surplus Deficit	-240,872	122,021	101,600	313,283	123,366	682,556	159,738	42,073	351,850	572,638	128,704	-86,842	-78,877	-133,704	2,057,532
80 2008 Federal Report Surplus Deficit	-243,609	79,552	-171,320	-50,691	2,208	155,238	-11,119	-137,466	543,629	1,776,763	408,853	-50,310	59,271	-17,813	2,343,187

Table 10.1.3
Federal Report Surplus Deficit By Water Year
Fiscal Year 2023

BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021

S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
1 1929 Federal Report Surplus Deficit	-122,039	-23,099	-308,460	-382,047	-241,159	-142,804	-115,710	-212,007	-354,531	72,391	-241,605	-82,808	-51,651	-48,604	-2,254,133
2 1930 Federal Report Surplus Deficit	-184,667	-37,282	-377,818	-419,083	-227,111	-236,459	-130,293	-166,831	-263,816	-232,033	-187,588	-74,792	-39,843	-79,151	-2,656,769
3 1931 Federal Report Surplus Deficit	-178,933	-495	-308,948	-504,595	-285,269	-153,740	-75,951	-210,586	-290,049	-262,907	-207,227	-71,250	-55,653	-105,946	-2,711,548
4 1932 Federal Report Surplus Deficit	-198,831	-97,498	-319,861	-363,994	-419,621	411,860	221,066	186,395	611,229	908,147	61,321	-49,443	30,602	-53,199	928,173
5 1933 Federal Report Surplus Deficit	-144,630	-1,465	74,720	304,526	635,573	234,902	133,038	-152,947	341,054	1,544,953	1,298,727	171,509	246,217	-18,637	4,667,540
6 1934 Federal Report Surplus Deficit	-50,675	652,721	1,382,928	1,962,829	1,510,072	666,732	633,555	360,980	990,431	562,472	-270,029	-105,228	-76,631	-159,149	8,061,008
7 1935 Federal Report Surplus Deficit	-197,631	-156,881	-192,269	168,915	585,023	70,516	-61,529	-147,673	179,526	137,626	167,441	123,652	-27,352	-108,519	540,844
8 1936 Federal Report Surplus Deficit	-158,545	-53,113	-323,502	-466,831	-421,736	32,095	-113,311	124,926	817,559	683,774	22,390	-78,949	-20,349	-95,464	-51,056
9 1937 Federal Report Surplus Deficit	-159,174	5,494	-313,533	-571,092	-453,857	-261,392	-115,583	-198,743	-177,951	-112,933	-252,639	-92,253	-66,208	-105,715	-2,875,580
10 1938 Federal Report Surplus Deficit	-162,810	65,957	-72,366	272,322	35,909	483,728	203,631	352,164	556,353	475,772	223,907	-99,744	-89,018	-51,669	2,194,137
11 1939 Federal Report Surplus Deficit	-134,434	-77,041	-370,186	-167,100	-1,045	53,717	-35,224	-90,780	255,502	-159,779	-117,560	-82,508	-44,601	-76,601	-1,047,643
12 1940 Federal Report Surplus Deficit	-156,373	7,560	-279,972	7,652	-79,066	374,506	69,862	-92,558	-50,439	-185,151	-289,467	-122,474	-84,598	-112,919	-993,438
13 1941 Federal Report Surplus Deficit	-165,438	95,457	-107,488	-315,715	-241,065	-100,137	-78,104	-174,390	-168,578	-165,146	-192,449	-76,686	-22,978	-59,855	-1,772,571
14 1942 Federal Report Surplus Deficit	-141,822	123,916	252,027	222,014	155,205	-95,936	-97,167	-86,729	-186,201	689,087	318,548	3,730	67,378	-7,192	1,216,857
15 1943 Federal Report Surplus Deficit	-160,073	12,809	-56,323	437,030	601,107	454,529	615,428	384,930	496,129	1,085,982	832,729	23,912	42,113	-92,253	4,678,048
16 1944 Federal Report Surplus Deficit	-170,275	-6,425	-334,735	-400,373	-125,877	-253,349	-155,303	-230,279	-350,894	-234,864	-263,965	-85,619	-57,590	-115,586	-2,785,134
17 1945 Federal Report Surplus Deficit	-169,821	-37,043	-301,419	-444,357	-322,604	-163,097	-154,752	-226,821	22,476	716,334	-170,200	-70,160	-38,180	-54,951	-1,414,596
18 1946 Federal Report Surplus Deficit	-172,984	-7,815	-50,421	214,861	151,311	465,408	333,639	364,834	831,740	740,115	395,987	45,141	110,365	-30,157	3,392,025
19 1947 Federal Report Surplus Deficit	-143,479	228,404	511,966	776,075	825,685	612,462	66,101	-52,215	517,742	615,091	316,428	1,306	-11,575	-16,578	4,247,414
20 1948 Federal Report Surplus Deficit	303,572	484,025	204,712	613,494	756,319	151,150	7,905	274,535	1,503,400	2,003,749	314,851	150,331	280,713	38,555	7,087,310
21 1949 Federal Report Surplus Deficit	-96,154	128,114	-201,630	386,553	-34,007	572,651	102,189	368,320	974,164	210,813	-227,515	-127,210	-99,422	-149,367	1,807,497
22 1950 Federal Report Surplus Deficit	-188,054	-22,508	-69,004	938,835	430,433	749,979	414,171	142,502	350,737	1,325,282	1,983,026	217,450	217,340	-11,788	6,478,400
23 1951 Federal Report Surplus Deficit	112,690	578,623	618,022	1,434,818	1,443,974	937,616	399,353	243,643	716,305	457,269	1,106,377	77,081	24,915	-17,283	8,133,402
24 1952 Federal Report Surplus Deficit	291,192	299,734	217,160	498,589	705,787	405,132	305,122	356,687	1,205,324	437,624	334,110	17,217	-41,009	-103,597	4,929,070
25 1953 Federal Report Surplus Deficit	-167,104	18,779	-323,362	-22,376	805,471	55,182	-135,298	-180,942	151,644	1,759,072	705,258	34,860	85,452	1,420	2,788,058
26 1954 Federal Report Surplus Deficit	-130,598	150,191	106,205	615,415	730,559	460,935	84,196	20,682	876,325	1,347,122	1,845,298	451,729	600,758	379,967	7,538,784
27 1955 Federal Report Surplus Deficit	-38,622	304,244	74,488	-242,341	-137,095	-257,378	-31,723	-157,932	63,650	1,443,409	1,714,081	150,504	185,274	-21,292	3,049,268
28 1956 Federal Report Surplus Deficit	-84,166	453,633	534,453	1,543,887	1,072,784	843,828	334,281	766,832	1,416,243	1,764,476	895,005	129,715	176,333	-20,910	9,826,394
29 1957 Federal Report Surplus Deficit	-71,263	117,392	129,522	56,901	176,676	408,505	484,804	19,448	1,319,285	1,606,078	60,538	-6,127	-57,779	-77,433	4,166,546
30 1958 Federal Report Surplus Deficit	-147,925	-6,800	-153,687	364,963	358,154	222,500	-70,116	87,582	866,377	1,121,146	-51,770	-26,907	-55,465	-68,276	2,439,778

Table 10.1.3
Federal Report Surplus Deficit By Water Year
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
31 1959 Federal Report Surplus Deficit	-145,653	330,588	363,769	1,085,916	1,165,670	532,723	113,645	55,166	341,388	1,249,659	1,177,620	115,204	225,307	542,417	7,153,419
32 1960 Federal Report Surplus Deficit	655,515	686,257	327,556	315,601	397,880	208,968	364,006	130,330	285,913	691,940	232,236	43,388	-42,952	-77,234	4,219,405
33 1961 Federal Report Surplus Deficit	-135,943	153,093	-57,408	623,242	278,783	516,361	191,760	-123,213	663,128	1,809,692	-24,668	-37,102	-25,733	-95,158	3,736,834
34 1962 Federal Report Surplus Deficit	-213,761	47,520	-64,465	123,608	581,064	-74,355	109,440	206,609	422,625	631,005	-25,488	19,395	23,443	-56,463	1,730,175
35 1963 Federal Report Surplus Deficit	-60,106	341,100	263,611	181,618	565,713	139	-53,505	-144,026	41,329	553,848	216,183	47,097	7,402	53,725	2,014,129
36 1964 Federal Report Surplus Deficit	-130,055	28,511	-64,827	-199,917	248,994	-99,019	75,204	-111,223	297,145	1,701,713	1,387,607	163,201	174,765	171,293	3,643,391
37 1965 Federal Report Surplus Deficit	19,084	226,644	626,968	1,356,364	1,529,558	950,595	127,089	126,358	1,077,692	707,923	512,912	179,400	240,794	2,461	7,683,841
38 1966 Federal Report Surplus Deficit	-71,941	3,089	3,142	6,520	445,754	4,423	72,626	-66,058	-47,976	451,682	165,621	-3,288	-52,314	-85,493	825,787
39 1967 Federal Report Surplus Deficit	-172,557	-4,600	87,603	529,937	1,092,465	463,194	102,722	-80,520	233,860	1,503,549	894,276	59,537	78,774	-21,859	4,766,381
40 1968 Federal Report Surplus Deficit	-88,973	223,747	33,780	559,817	329,086	589,945	-105,161	-182,403	5,134	723,145	275,021	105,888	114,983	291,374	2,875,384
41 1969 Federal Report Surplus Deficit	80,618	476,008	226,322	940,064	1,149,951	580,387	475,305	477,840	940,314	730,445	340,528	-3,680	9,466	-76,412	6,347,154
42 1970 Federal Report Surplus Deficit	-136,437	111,519	-178,411	182,641	628,371	126,164	-66,849	-160,899	193,891	1,292,272	-18,339	-45,963	-15,449	-24,917	1,887,594
43 1971 Federal Report Surplus Deficit	-141,692	34,790	-79,909	1,143,099	1,530,776	779,939	288,804	242,940	1,249,848	1,774,126	983,217	187,588	354,537	36,844	8,384,907
44 1972 Federal Report Surplus Deficit	-33,100	207,572	125,974	1,240,816	726,945	1,529,345	594,939	164,016	1,304,969	1,981,189	1,162,765	231,271	398,673	84,139	9,719,512
45 1973 Federal Report Surplus Deficit	21,897	130,244	11,521	7,285	70,655	-101,725	-91,556	-237,202	-174,617	-134,241	-248,176	-95,971	-111,659	-130,119	-1,083,664
46 1974 Federal Report Surplus Deficit	-180,707	157,631	280,805	2,433,233	1,762,983	1,195,247	454,145	467,865	1,220,807	1,843,595	1,972,613	249,785	422,692	60,301	12,340,994
47 1975 Federal Report Surplus Deficit	-136,946	443	-132,030	189,968	442,401	439,637	-25,724	-63,510	239,635	1,431,032	1,139,762	69,303	147,047	103,753	3,844,770
48 1976 Federal Report Surplus Deficit	139,352	519,509	956,563	933,727	1,103,817	793,955	354,171	235,989	1,047,653	697,798	1,101,754	555,420	874,852	489,167	9,803,728
49 1977 Federal Report Surplus Deficit	9,137	-9,900	-250,989	-302,242	-96,791	-306,571	-168,051	-232,067	-316,377	-328,762	-318,046	-94,656	-54,387	-162,890	-2,632,594
50 1978 Federal Report Surplus Deficit	-223,054	-50,516	99,068	178,503	89,053	441,552	92,692	-11,780	598,361	421,995	444,306	-37,985	-9,727	227,655	2,260,122
51 1979 Federal Report Surplus Deficit	-34,423	64,508	-262,870	-25,863	-138,653	191,838	-31,076	-177,022	447,899	-72,588	-254,121	-109,527	-82,322	-73,973	-558,193
52 1980 Federal Report Surplus Deficit	-150,620	-35,783	-398,461	-38,624	-170,496	-53,820	-72,314	73,854	1,057,845	944,918	-19,733	-91,695	-72,480	-58,279	914,311
53 1981 Federal Report Surplus Deficit	-154,747	91,940	295,879	640,363	889,176	8,770	-130,518	-160,655	182,492	1,706,066	747,892	221,002	252,470	6,686	4,596,816
54 1982 Federal Report Surplus Deficit	-146,449	155,053	72,212	746,928	1,057,880	1,322,319	280,413	52,580	629,774	1,246,790	1,472,639	157,896	351,000	261,207	7,660,242
55 1983 Federal Report Surplus Deficit	112,576	204,383	168,757	832,874	526,728	1,289,139	219,473	45,332	253,890	539,484	1,106,720	143,881	156,645	70,673	5,670,554
56 1984 Federal Report Surplus Deficit	-41,520	586,109	222,417	538,730	614,639	690,891	196,487	92,192	294,336	1,302,628	788,098	95,522	60,670	108,904	5,550,103
57 1985 Federal Report Surplus Deficit	-17,043	246,718	10,210	168,455	139,561	35,413	78,540	-7,398	273,305	37,160	-242,842	-121,378	-130,448	-31,860	438,394
58 1986 Federal Report Surplus Deficit	-31,163	338,661	52,469	433,289	839,429	1,099,520	306,623	110,887	143,403	680,536	-74,113	-51,397	-53,642	-66,405	3,728,097
59 1987 Federal Report Surplus Deficit	-166,994	159,161	36,983	-130,304	-158,176	62,061	-50,671	-40,899	455,285	-93,413	-328,230	-125,596	-120,048	-150,927	-651,769
60 1988 Federal Report Surplus Deficit	-200,937	-3,719	-357,096	-505,408	-309,742	-149,656	-122,417	-125,713	-239,553	-164,789	-156,432	-95,973	-73,441	-93,203	-2,598,079

Table 10.1.3
Federal Report Surplus Deficit By Water Year
Fiscal Year 2023
BP22 Final Proposal - Rate Case Study Report Date: 6/7/2021
S215-RC-20210504-203021

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
LLH-MWh - Surplus Deficit	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug1	Aug16	Sep	Sum
61 1989 Federal Report Surplus Deficit	-226,198	74,096	-98,113	-189,806	-378,549	306,487	110,558	257,043	309,176	-78,760	-171,619	-107,223	-71,537	-105,207	-369,649
62 1990 Federal Report Surplus Deficit	-161,251	93,472	157,969	178,648	728,545	349,044	25,090	115,058	87,321	865,962	647,896	101,365	72,003	-76,914	3,184,210
63 1991 Federal Report Surplus Deficit	-201,477	564,172	217,150	453,623	1,051,216	447,283	225,825	-35,769	319,318	540,967	1,104,783	188,457	153,768	-94,691	4,934,627
64 1992 Federal Report Surplus Deficit	-146,120	60,156	-361,776	-195,768	-125,100	22,940	-79,078	-152,464	48,225	-237,727	-285,913	-99,304	-62,066	-122,624	-1,736,620
65 1993 Federal Report Surplus Deficit	-242,270	-51,925	-280,139	-410,830	-485,238	11,197	20,297	-189,979	459,399	270,716	43,434	-21,458	68,395	16,037	-792,363
66 1994 Federal Report Surplus Deficit	-179,642	-1,788	-256,736	-414,078	-184,981	-120,448	-115,895	-89,622	-127,295	-257,303	-212,441	-99,590	-84,485	-93,841	-2,238,146
67 1995 Federal Report Surplus Deficit	-201,343	-62,154	-203,894	-81,866	173,980	455,803	-3,637	-174,605	112,497	1,028,160	145,834	-20,177	2,800	25,322	1,196,721
68 1996 Federal Report Surplus Deficit	35,824	780,762	1,754,460	1,894,844	1,547,025	1,432,828	185,164	474,868	708,879	1,073,239	1,173,169	133,602	37	-16,398	11,178,302
69 1997 Federal Report Surplus Deficit	-124,294	186,761	231,064	1,604,639	1,831,559	1,160,627	524,486	664,766	1,691,671	2,005,942	1,272,894	149,809	411,345	242,073	11,853,342
70 1998 Federal Report Surplus Deficit	412,672	372,194	7,483	108,739	471,804	184,597	-66,931	-123,383	565,235	919,691	356,741	135,116	91,300	11,521	3,446,779
71 1999 Federal Report Surplus Deficit	-120,359	-23,993	133,147	1,137,165	718,029	1,271,462	226,215	192,524	286,286	990,039	1,380,867	408,526	471,407	-20,337	7,050,979
72 2000 Federal Report Surplus Deficit	-152,616	523,487	272,267	411,824	282,120	425,020	298,905	279,499	350,212	-87,658	209,586	-11,383	-83,469	-134,716	2,583,079
73 2001 Federal Report Surplus Deficit	-149,010	-39,471	-273,236	-301,472	-146,190	-178,497	-161,067	-243,642	-330,285	-321,730	-285,594	-86,121	-67,971	-157,235	-2,741,521
74 2002 Federal Report Surplus Deficit	-228,259	-125,286	-135,263	-236,846	-151,568	11,706	51,489	171,549	227,485	1,042,343	676,447	-27,848	36,244	-91,652	1,220,541
75 2003 Federal Report Surplus Deficit	-172,410	26,922	-315,141	-254,574	-88,083	336,637	28,864	-19,332	-151,704	625,486	-229,426	-119,446	-79,886	-144,057	-556,151
76 2004 Federal Report Surplus Deficit	-213,433	123,027	8,811	-99,279	-53,986	-19,397	-43,674	-122,296	-194,793	86,300	-165,647	-111,054	-4,786	-9,595	-819,802
77 2005 Federal Report Surplus Deficit	-54,907	146,048	151,765	46,249	455,463	-15,021	-125,167	-181,231	-111,253	906	-39,732	-67,833	-57,179	-60,971	87,136
78 2006 Federal Report Surplus Deficit	-235,924	162,946	16,748	431,459	982,723	270,131	453,947	216,515	788,691	892,247	37,443	-92,766	-96,078	-123,543	3,704,540
79 2007 Federal Report Surplus Deficit	-196,963	140,380	14,330	391,526	107,682	643,716	143,207	-23,805	235,796	303,305	94,232	-98,689	-91,637	-167,635	1,495,445
80 2008 Federal Report Surplus Deficit	-201,523	97,437	-237,512	69,190	-25,414	127,899	-29,239	-191,949	382,231	1,487,608	360,902	-62,671	45,078	-53,296	1,768,741

