

2014 Wholesale Power Rate Case Initial Proposal

POWER LOADS AND RESOURCES STUDY DOCUMENTATION

November 2012

BP-14-E-BPA-03A



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COMMONLY USED ACRONYMS

| | |
|------------------------------------|--|
| AAC | Anticipated Accumulation of Cash |
| AGC | Automatic Generation Control |
| ALF | Agency Load Forecast (computer model) |
| aMW | average megawatt(s) |
| AMNR | Accumulated Modified Net Revenues |
| ANR | Accumulated Net Revenues |
| ASC | Average System Cost |
| BiOp | Biological Opinion |
| BPA | Bonneville Power Administration |
| Btu | British thermal unit |
| CDD | cooling degree day(s) |
| CDQ | Contract Demand Quantity |
| CGS | Columbia Generating Station |
| CHWM | Contract High Water Mark |
| COE, Corps, or USACE Commission | U.S. Army Corps of Engineers Federal Energy Regulatory Commission |
| Corps, COE, or USACE | U.S. Army Corps of Engineers |
| COSA | Cost of Service Analysis |
| COU | consumer-owned utility |
| Council or NPCC | Northwest Power and Conservation Council |
| CP | Coincidental Peak |
| CRAC | Cost Recovery Adjustment Clause |
| CSP | Customer System Peak |
| CT | combustion turbine |
| CY | calendar year (January through December) |
| DDC | Dividend Distribution Clause |
| dec | decrease, decrement, or decremental |
| DERBS | Dispatchable Energy Resource Balancing Service |
| DFS | Diurnal Flattening Service |
| DOE | Department of Energy |
| DSI | direct-service industrial customer or direct-service industry |
| DSO | Dispatcher Standing Order |
| EIA | Energy Information Administration |
| EIS | Environmental Impact Statement |
| EN | Energy Northwest, Inc. |
| EPP | Environmentally Preferred Power |
| ESA | Endangered Species Act |
| 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 |
| FHFO | Funds Held for Others |
| FORS | Forced Outage Reserve Service |
| FPS | Firm Power Products and Services (rate) |

| | |
|-----------------------------|--|
| FY | fiscal year (October through September) |
| GARD | Generation and Reserves Dispatch (computer model) |
| GEP | Green Energy Premium |
| GRSPs | General Rate Schedule Provisions |
| GTA | General Transfer Agreement |
| GWh | gigawatthour |
| HDD | heating degree day(s) |
| HLH | Heavy Load Hour(s) |
| HOSS | Hourly Operating and Scheduling Simulator (computer model) |
| HYDSIM | Hydrosystem Simulator (computer model) |
| ICE | IntercontinentalExchange |
| inc | increase, increment, or incremental |
| IOU | investor owned utility |
| IP | Industrial Firm Power (rate) |
| IPR | Integrated Program Review |
| IRD | Irrigation Rate Discount |
| IRM | Irrigation Rate Mitigation |
| IRMP | Irrigation Rate Mitigation Product |
| JOE | Joint Operating Entity |
| kW | kilowatt (1000 watts) |
| kWh | kilowatthour |
| LDD | Low Density Discount |
| LLH | Light Load Hour(s) |
| LRA | Load Reduction Agreement |
| Maf | million acre-feet |
| Mid C | Mid Columbia |
| MMBtu | million British thermal units |
| MNR | Modified Net Revenues |
| MRNR | Minimum Required Net Revenue |
| MW | megawatt (1 million watts) |
| 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 Fisheries | National Oceanographic and Atmospheric Administration |
| NORM | Non-Operating Risk Model (computer model) |
| Northwest Power Act Act | Pacific Northwest Electric Power Planning and Conservation |
| NPCC or Council Council | Pacific Northwest Electric Power and Conservation Planning |
| NPV | net present value |
| NR | New Resource Firm Power (rate) |

| | |
|---------------------|--|
| NT | Network Transmission |
| NTSA | Non-Treaty Storage Agreement |
| NUG | non-utility generation |
| NWPP | Northwest Power Pool |
| OATT | Open Access Transmission Tariff |
| O&M | operation and maintenance |
| OATI | Open Access Technology International, Inc. |
| OMB | Office of Management and Budget |
| OY | operating year (August through July) |
| PF | Priority Firm Power (rate) |
| PFp | Priority Firm Public (rate) |
| PFx | Priority Firm Exchange (rate) |
| 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 |
| POM | Point of Metering |
| POR | Point of Receipt |
| Project Act | Bonneville Project Act |
| PRS | Power Rates Study |
| PS | BPA Power Services |
| PSW | Pacific Southwest |
| PTP | Point to Point Transmission (rate) |
| PUD | public or people's utility district |
| RAM | Rate Analysis Model (computer model) |
| RAS | Remedial Action Scheme |
| RD | Regional Dialogue |
| REC | Renewable Energy Certificate |
| Reclamation or USBR | U.S. Bureau of Reclamation |
| REP | Residential Exchange Program |
| RevSim | Revenue Simulation Model (component of RiskMod) |
| RFA | Revenue Forecast Application (database) |
| RHWM | Rate Period High Water Mark |
| RiskMod | Risk Analysis Model (computer model) |
| RiskSim | Risk Simulation Model (component of RiskMod) |
| ROD | Record of Decision |
| RPSA | Residential Purchase and Sale Agreement |
| RR | Resource Replacement (rate) |
| RRS | Resource Remarketing Service |
| RSS | Resource Support Services |
| RT1SC | RHWM Tier 1 System Capability |
| RTO | Regional Transmission Operator |
| SCADA | Supervisory Control and Data Acquisition |
| SCS | Secondary Crediting Service |
| Slice | Slice of the System (product) |
| T1SFCO | Tier 1 System Firm Critical Output |

| | |
|-------------------------|--|
| TCMS | Transmission Curtailment Management Service |
| TOCA | Tier 1 Cost Allocator |
| TPP | Treasury Payment Probability |
| Transmission System Act | Federal Columbia River Transmission System Act |
| TRL | Total Retail Load |
| TRM | Tiered Rate Methodology |
| TS | BPA Transmission Services |
| TSS | Transmission Scheduling Service |
| UAI | Unauthorized Increase |
| ULS | Unanticipated Load Service |
| USACE, Corps, or COE | U.S. Army Corps of Engineers |
| USBR or Reclamation | U.S. Bureau of Reclamation |
| USFWS | U.S. Fish and Wildlife Service |
| VERBS | Variable Energy Resources Balancing Service (rate) |
| VOR | Value of Reserves |
| VR1-2014 | First Vintage rate of the BP-14 rate period |
| WECC | Western Electricity Coordinating Council (formerly WSCC) |
| WIT | Wind Integration Team |
| WSPP | Western Systems Power Pool |

| | | |
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| 1. | DOCUMENTATION FOR THE LOADS AND RESOURCES STUDY | 1 |
| 1.1 | Bonneville Preference Customers | |
| | Table 1.1.1 Load Following Service Customers..... | 2 |
| | Table 1.1.2 Slice Service Customers | 4 |
| | Table 1.1.3 USBR Obligation Customers..... | 5 |

**Table 1.1.1
Load Following Service Customers**

| | | |
|----------------------------|---------------------------|--|
| Albion, City of | Flathead Elec Coop | Plummer, City of |
| Alder Mutual | Forest Grove, City of | Port Angeles, City of |
| Ashland, City of | Glacier Elec Coop | Port of Seattle |
| Asotin County PUD #1 | Grant County PUD #2 | Puget Sound Naval Shipyard (Bremerton) |
| Bandon, City of | Harney Elec Coop | Raft River Rural Elec Coop |
| Benton REA | Hermiston, City of | Ravalli Elec Coop |
| Big Bend Elec Coop | Heyburn, City of | Richland, City of |
| Blachly-Lane Electric Coop | Hood River Elec Coop | Riverside Elec Coop |
| Blaine, City of | Idaho County L & P | Rupert, City of |
| Bonnars Ferry, City of | Inland P & L | Salem Elec Coop |
| Burley, City of | Jefferson County PUD | Salmon River Elec Coop |
| Canby, City of | Kittitas County PUD #1 | Skamania County PUD #1 |
| Cascade Locks, City of | Kootenai Electric Coop | Soda Springs, City of |
| Central Lincoln | Lakeview L & P (WA) | South Side Elec |
| Central MT Elec Power Coop | Lane Elec Coop | Springfield Utiltiy Board |
| Centralia, City of | Lincoln Elec Coop | Steilacoom, Town of |
| Cheney, City of | Lost River Elec Coop | Sumas, Town of |
| Chewelah, City of | Lower Valley P & L | Surprise Valley Elec Coop |
| Clallam County PUD #1 | Mason County PUD #1 | Tanner Elec Coop |
| Clearwater Power | Mason County PUD #3 | Tillamook PUD #1 |
| Columbia Basin Elec Coop | McCleary, City of | Troy, City of |
| Columbia Power Coop | McMinnville, City of | U.S. Bureau of Reclamation (Roza) |
| Columbia REA | Midstate Elec Coop | U.S. Naval Station, Everett (Jim Creek) |
| Columbia River PUD | Milton Freewater, City of | U.S. Naval Submarine Base,(Bangor) |
| Consol Irrig Dist #19 | Milton, Town of | Umatilla Elec Coop |
| Consumer's Power | Minidoka, City of | Umpqua Indian Utility Cooperative |
| Coos-Curry Electric Coop | Mission Valley Power | United Electric Coop |
| Coulee Dam, City of | Missoula Elec Coop | USBIA Wapato |
| Declo, City of | Modern Elec Coop | USDOE-Albany |
| Douglas Electric Coop | Monmouth, City of | USDOE-Richland |
| Drain, City of | Nespelem Valley Elec Coop | Vera Irrigation District |
| East End Mutual Electric | Northern Lights | Vigilante Elec Coop |
| Eatonville, City of | Northern Wasco County PUD | Wahkiakum County PUD #1 |

Table 1.1.1 - continued
Load Following Service Customers

| | | |
|----------------------------|---------------------------|-----------------------|
| Ellensburg, City of | Ohop Mutual Light Company | Wasco Elec Coop |
| Elmhurst Mutual P & L | Okanogan County Elec Coop | Weiser, City of |
| Energy Northwest | Orcas P & L | Wells Rural Elec Co |
| Fairchild AFB | Oregon Trail Coop | West Oregon Elec Coop |
| Fall River Rural Elec Coop | Parkland L & W | Whatcom County PUD #1 |
| Farmers Elec Coop | Peninsula Light Company | Yakama Power |
| Ferry County PUD #1 | | |

Table 1.1.2
Slice Service Customers

| | | |
|------------|--------------|--------------|
| Benton PUD | Franklin | Pacific |
| Clark | Grays Harbor | Pend Oreille |
| Clatskanie | Idaho Falls | Seattle |
| Cowlitz | Klickitat | Snohomish |
| Emerald | Lewis | Tacoma |
| EWEB | Okanogan PUD | |

Table 1.1.3
USBR Obligation Customers

| | | |
|-------------------------------------|---|------------------------------|
| USBR Chief Joseph Project | USBR East Green Acres | USBR Tualatin Valley Project |
| USBR Columbia Basin Project | USBR Southern Idaho Projects | USBR Owyhee Project |
| USBR Crooked River Project | USBR Spokane Indian Development Project | USBR Umatilla Project |
| USBR The Dalles Reclamation Project | USBR Spokane Valley Project | USBR Yakima Project |

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| Table 1.2.2 | Table A-6: Preference Power Sales - HLH MWh | 10 |
| Table 1.2.3 | Table A-6: Preference Power Sales - LLH MWh..... | 12 |

Table 1.2.1
Table A-6: BPA Sales to Preference and Legacy Customers
 Fiscal Year 2014 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|---------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Pacific Northwest | | | | | | | | | | | | | | | |
| 1 DSI Obligation | 311 | 313 | 311 | 312 | 313 | 312 | 312 | 312 | 312 | 311 | 312 | 313 | 312 | 313 | 312 |
| 2 Direct Service Industry | 311 | 313 | 311 | 312 | 313 | 312 | 312 | 312 | 312 | 311 | 312 | 313 | 312 | 313 | 312 |
| 3 Load Following | 2947 | 3427 | 3872 | 3827 | 3645 | 3248 | 3113 | 3113 | 2991 | 3110 | 3370 | 3308 | 3281 | 3040 | 3323 |
| 4 Cooperative | 1594 | 1814 | 2090 | 2045 | 1946 | 1724 | 1685 | 1685 | 1699 | 1831 | 2030 | 1958 | 1943 | 1730 | 1845 |
| 5 Municipality | 541 | 634 | 701 | 702 | 672 | 597 | 564 | 564 | 518 | 520 | 557 | 569 | 564 | 539 | 592 |
| 6 Public Utility District | 705 | 846 | 926 | 928 | 887 | 793 | 750 | 750 | 671 | 654 | 664 | 666 | 660 | 668 | 762 |
| 7 Federal Entities | 107 | 132 | 154 | 151 | 140 | 135 | 113 | 113 | 104 | 105 | 119 | 115 | 114 | 103 | 123 |
| 8 Slice Right to Power | 1617 | 2151 | 2118 | 1655 | 1579 | 1742 | 1715 | 1732 | 2764 | 2227 | 2154 | 1907 | 1676 | 1764 | 1943 |
| 9 Municipality | 539 | 717 | 706 | 552 | 526 | 581 | 572 | 578 | 922 | 743 | 718 | 636 | 559 | 588 | 648 |
| 10 Public Utility District | 1078 | 1434 | 1412 | 1103 | 1052 | 1161 | 1143 | 1154 | 1843 | 1485 | 1436 | 1271 | 1117 | 1176 | 1295 |
| 11 Tier 1 Block | 1655 | 2046 | 2274 | 2310 | 2137 | 1989 | 1663 | 1663 | 1454 | 1351 | 1592 | 1593 | 1593 | 1661 | 1809 |
| 12 Municipality | 547 | 758 | 827 | 858 | 813 | 778 | 541 | 541 | 359 | 287 | 462 | 483 | 483 | 596 | 608 |
| 13 Public Utility District | 1108 | 1288 | 1447 | 1452 | 1324 | 1211 | 1122 | 1122 | 1094 | 1063 | 1130 | 1110 | 1110 | 1065 | 1201 |
| 14 USBR Obligation | 100 | 27.6 | 32.8 | 13.5 | 16.9 | 57.8 | 246 | 246 | 327 | 335 | 402 | 286 | 296 | 254 | 176 |
| 15 USBR | 100 | 27.6 | 32.8 | 13.5 | 16.9 | 57.8 | 246 | 246 | 327 | 335 | 402 | 286 | 296 | 254 | 176 |
| Total Power Sales Contracts | | | | | | | | | | | | | | | |
| 16 Cooperative | 1594 | 1814 | 2090 | 2045 | 1946 | 1724 | 1685 | 1685 | 1699 | 1831 | 2030 | 1958 | 1943 | 1730 | 1845 |
| 17 Direct Service Industry | 311 | 313 | 311 | 312 | 313 | 312 | 312 | 312 | 312 | 311 | 312 | 313 | 312 | 313 | 312 |
| 18 Municipality | 1627 | 2110 | 2235 | 2112 | 2012 | 1956 | 1677 | 1683 | 1799 | 1550 | 1737 | 1689 | 1607 | 1724 | 1849 |
| 19 Public Utility District | 2891 | 3568 | 3785 | 3484 | 3264 | 3165 | 3015 | 3027 | 3608 | 3202 | 3230 | 3047 | 2887 | 2909 | 3258 |
| 20 Federal Entities | 107 | 132 | 154 | 151 | 140 | 135 | 113 | 113 | 104 | 105 | 119 | 115 | 114 | 103 | 123 |
| 21 USBR | 100 | 27.6 | 32.8 | 13.5 | 16.9 | 57.8 | 246 | 246 | 327 | 335 | 402 | 286 | 296 | 254 | 176 |
| 22 Total Power Sales Contracts | 6631 | 7965 | 8608 | 8117 | 7691 | 7349 | 7049 | 7066 | 7848 | 7334 | 7831 | 7407 | 7158 | 7033 | 7563 |

Table 1.2.1 - continued
Table A-6: BPA Sales to Preference and Legacy Customers
 Fiscal Year 2015 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|---------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Pacific Northwest | | | | | | | | | | | | | | | |
| 1 DSI Obligation | 311 | 313 | 311 | 312 | 313 | 312 | 312 | 312 | 312 | 311 | 312 | 313 | 312 | 313 | 312 |
| 2 Direct Service Industry | 311 | 313 | 311 | 312 | 313 | 312 | 312 | 312 | 312 | 311 | 312 | 313 | 312 | 313 | 312 |
| 3 Load Following | 3016 | 3499 | 3938 | 3887 | 3705 | 3305 | 3165 | 3165 | 3041 | 3162 | 3420 | 3363 | 3335 | 3096 | 3381 |
| 4 Cooperative | 1642 | 1863 | 2133 | 2082 | 1981 | 1759 | 1716 | 1716 | 1727 | 1860 | 2064 | 1997 | 1982 | 1771 | 1883 |
| 5 Municipality | 555 | 649 | 715 | 716 | 686 | 609 | 577 | 577 | 530 | 534 | 570 | 583 | 578 | 552 | 606 |
| 6 Public Utility District | 711 | 853 | 933 | 935 | 895 | 799 | 756 | 756 | 677 | 660 | 670 | 671 | 666 | 674 | 769 |
| 7 Federal Entities | 108 | 134 | 157 | 155 | 143 | 138 | 116 | 116 | 106 | 107 | 116 | 111 | 110 | 99.4 | 124 |
| 8 Slice Right to Power | 1576 | 2105 | 2127 | 1799 | 1583 | 1732 | 1736 | 1745 | 2519 | 1848 | 1971 | 1978 | 1727 | 1518 | 1867 |
| 9 Municipality | 525 | 702 | 709 | 600 | 528 | 577 | 579 | 582 | 840 | 616 | 657 | 660 | 576 | 506 | 622 |
| 10 Public Utility District | 1051 | 1403 | 1418 | 1199 | 1055 | 1154 | 1157 | 1163 | 1679 | 1232 | 1314 | 1319 | 1151 | 1012 | 1244 |
| 11 Tier 1 Block | 1736 | 2147 | 2387 | 2424 | 2243 | 2088 | 1746 | 1746 | 1526 | 1419 | 1671 | 1672 | 1672 | 1743 | 1899 |
| 12 Municipality | 572 | 793 | 866 | 897 | 851 | 814 | 567 | 567 | 378 | 303 | 485 | 507 | 507 | 624 | 637 |
| 13 Public Utility District | 1164 | 1354 | 1521 | 1527 | 1393 | 1274 | 1179 | 1179 | 1149 | 1116 | 1186 | 1165 | 1165 | 1119 | 1262 |
| 14 USBR Obligation | 100 | 27.6 | 32.8 | 13.5 | 16.9 | 57.8 | 246 | 246 | 327 | 335 | 402 | 286 | 296 | 254 | 176 |
| 15 USBR | 100 | 27.6 | 32.8 | 13.5 | 16.9 | 57.8 | 246 | 246 | 327 | 335 | 402 | 286 | 296 | 254 | 176 |
| Total Power Sales Contracts | | | | | | | | | | | | | | | |
| 16 Cooperative | 1642 | 1863 | 2133 | 2082 | 1981 | 1759 | 1716 | 1716 | 1727 | 1860 | 2064 | 1997 | 1982 | 1771 | 1883 |
| 17 Direct Service Industry | 311 | 313 | 311 | 312 | 313 | 312 | 312 | 312 | 312 | 311 | 312 | 313 | 312 | 313 | 312 |
| 18 Municipality | 1653 | 2144 | 2290 | 2212 | 2064 | 2001 | 1723 | 1727 | 1748 | 1453 | 1712 | 1749 | 1660 | 1682 | 1865 |
| 19 Public Utility District | 2926 | 3610 | 3872 | 3661 | 3342 | 3227 | 3092 | 3099 | 3505 | 3008 | 3170 | 3155 | 2982 | 2805 | 3275 |
| 20 Federal Entities | 108 | 134 | 157 | 155 | 143 | 138 | 116 | 116 | 106 | 107 | 116 | 111 | 110 | 99.4 | 124 |
| 21 USBR | 100 | 27.6 | 32.8 | 13.5 | 16.9 | 57.8 | 246 | 246 | 327 | 335 | 402 | 286 | 296 | 254 | 176 |
| 22 Total Power Sales Contracts | 6740 | 8092 | 8795 | 8435 | 7861 | 7494 | 7205 | 7214 | 7725 | 7075 | 7776 | 7612 | 7341 | 6924 | 7635 |

Table 1.2.2
Table A-6: BPA Sales to Preference and Legacy Customers
 Fiscal Year 2014 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|---------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Pacific Northwest | | | | | | | | | | | | | | | |
| 1 DSI Obligation | 133254 | 122936 | 127343 | 128589 | 118442 | 132274 | 64132 | 64132 | 126907 | 126345 | 127039 | 65709 | 65709 | 121544 | 1524357 |
| 2 Direct Service Industry | 133254 | 122936 | 127343 | 128589 | 118442 | 132274 | 64132 | 64132 | 126907 | 126345 | 127039 | 65709 | 65709 | 121544 | 1524357 |
| 3 Load Following | 1353232 | 1451406 | 1693713 | 1678378 | 1476913 | 1464908 | 684652 | 684652 | 1314992 | 1379712 | 1499174 | 753922 | 753922 | 1314804 | 17504381 |
| 4 Cooperative | 732943 | 768211 | 911349 | 896016 | 787633 | 776191 | 370018 | 370018 | 743442 | 809674 | 897377 | 444481 | 444481 | 746189 | 9698023 |
| 5 Municipality | 249283 | 268695 | 308785 | 309123 | 272959 | 269116 | 125125 | 125125 | 231297 | 233297 | 253745 | 131154 | 131154 | 236012 | 3144870 |
| 6 Public Utility District | 322938 | 360411 | 408033 | 408462 | 361030 | 359962 | 165271 | 165271 | 295406 | 290085 | 295457 | 152294 | 152294 | 288826 | 4025740 |
| 7 Federal Entities | 48069 | 54090 | 65546 | 64777 | 55290 | 59639 | 24238 | 24238 | 44847 | 46656 | 52596 | 25994 | 25994 | 43777 | 635749 |
| 8 Slice Right to Power | 768056 | 958560 | 967756 | 760195 | 658745 | 807822 | 384793 | 398331 | 1255884 | 1027423 | 1003647 | 458949 | 404165 | 796288 | 10650614 |
| 9 Municipality | 256096 | 319617 | 322684 | 253475 | 219648 | 269356 | 128303 | 132817 | 418755 | 342578 | 334651 | 153030 | 134763 | 265510 | 3551285 |
| 10 Public Utility District | 511959 | 638943 | 645073 | 506719 | 439097 | 538466 | 256489 | 265514 | 837129 | 684844 | 668996 | 305920 | 269402 | 530778 | 7099329 |
| 11 Tier 1 Block | 714817 | 818546 | 909748 | 960952 | 820727 | 827610 | 346005 | 346005 | 604717 | 540230 | 662383 | 331381 | 331381 | 664545 | 8879047 |
| 12 Municipality | 236168 | 303300 | 330954 | 356819 | 312298 | 323786 | 112544 | 112544 | 149432 | 114942 | 192348 | 100541 | 100541 | 238576 | 2984791 |
| 13 Public Utility District | 478649 | 515246 | 578794 | 604134 | 508429 | 503825 | 233461 | 233461 | 455285 | 425288 | 470035 | 230840 | 230840 | 425969 | 5894256 |
| 14 USBR Obligation | 15103 | 1178 | 1052 | 9222 | 1156 | 4384 | 26969 | 26969 | 119061 | 92756 | 104344 | 36536 | 36536 | 55514 | 530779 |
| 15 USBR | 15103 | 1178 | 1052 | 9222 | 1156 | 4384 | 26969 | 26969 | 119061 | 92756 | 104344 | 36536 | 36536 | 55514 | 530779 |
| Total Power Sales Contracts | | | | | | | | | | | | | | | |
| 16 Cooperative | 732943 | 768211 | 911349 | 896016 | 787633 | 776191 | 370018 | 370018 | 743442 | 809674 | 897377 | 444481 | 444481 | 746189 | 9698023 |
| 17 Direct Service Industry | 133254 | 122936 | 127343 | 128589 | 118442 | 132274 | 64132 | 64132 | 126907 | 126345 | 127039 | 65709 | 65709 | 121544 | 1524357 |
| 18 Municipality | 741547 | 891612 | 962422 | 919417 | 804906 | 862257 | 365972 | 370486 | 799484 | 690818 | 780743 | 384724 | 366457 | 740098 | 9680946 |
| 19 Public Utility District | 1313546 | 1514601 | 1631900 | 1519314 | 1308555 | 1402253 | 655222 | 664246 | 1587820 | 1400217 | 1434488 | 689053 | 652536 | 1245573 | 17019325 |
| 20 Federal Entities | 48069 | 54090 | 65546 | 64777 | 55290 | 59639 | 24238 | 24238 | 44847 | 46656 | 52596 | 25994 | 25994 | 43777 | 635749 |
| 21 USBR | 15103 | 1178 | 1052 | 9222 | 1156 | 4384 | 26969 | 26969 | 119061 | 92756 | 104344 | 36536 | 36536 | 55514 | 530779 |
| 22 Total Power Sales Contracts | 2984462 | 3352626 | 3699612 | 3537336 | 3075983 | 3236998 | 1506550 | 1520089 | 3421562 | 3166466 | 3396588 | 1646498 | 1591713 | 2952695 | 39089178 |

Table 1.2.2 - continued
Table A-6: BPA Sales to Preference and Legacy Customers
 Fiscal Year 2015 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|---------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Pacific Northwest | | | | | | | | | | | | | | | |
| 1 DSI Obligation | 133254 | 122936 | 127343 | 128589 | 118442 | 132274 | 64132 | 64132 | 126907 | 126345 | 127039 | 65709 | 65709 | 121544 | 1524357 |
| 2 Direct Service Industry | 133254 | 122936 | 127343 | 128589 | 118442 | 132274 | 64132 | 64132 | 126907 | 126345 | 127039 | 65709 | 65709 | 121544 | 1524357 |
| 3 Load Following | 1384824 | 1472276 | 1732816 | 1704736 | 1501022 | 1490447 | 696149 | 696149 | 1329517 | 1410052 | 1521475 | 766460 | 766460 | 1338964 | 17811349 |
| 4 Cooperative | 754764 | 783204 | 936343 | 912207 | 802102 | 792049 | 376770 | 376770 | 751740 | 827308 | 912664 | 453269 | 453269 | 763810 | 9896270 |
| 5 Municipality | 255476 | 272432 | 317401 | 314915 | 278444 | 274657 | 127925 | 127925 | 234898 | 241158 | 259624 | 134274 | 134274 | 241514 | 3214916 |
| 6 Public Utility District | 325854 | 361661 | 412673 | 411435 | 364006 | 362903 | 166727 | 166727 | 296942 | 294143 | 298211 | 153690 | 153690 | 291507 | 4060167 |
| 7 Federal Entities | 48730 | 54979 | 66399 | 66179 | 56471 | 60837 | 24728 | 24728 | 45936 | 47444 | 50976 | 25228 | 25228 | 42133 | 639996 |
| 8 Slice Right to Power | 748143 | 948371 | 976968 | 839812 | 665488 | 810092 | 394336 | 403824 | 1150878 | 848619 | 989974 | 464527 | 423063 | 665435 | 10329529 |
| 9 Municipality | 249457 | 316220 | 325755 | 280023 | 221897 | 270113 | 131485 | 134649 | 383743 | 282959 | 330092 | 154889 | 141064 | 221879 | 3444224 |
| 10 Public Utility District | 498686 | 632151 | 651213 | 559790 | 443591 | 539979 | 262851 | 269175 | 767135 | 565660 | 659882 | 309638 | 281999 | 443556 | 6885305 |
| 11 Tier 1 Block | 750104 | 824465 | 992991 | 1008299 | 861386 | 868629 | 363254 | 363254 | 610560 | 590461 | 695109 | 347683 | 347683 | 697252 | 9321131 |
| 12 Municipality | 247150 | 304349 | 360094 | 373123 | 326595 | 338707 | 118003 | 118003 | 151097 | 126058 | 201728 | 105362 | 105362 | 249573 | 3125204 |
| 13 Public Utility District | 502953 | 520116 | 632897 | 635176 | 534792 | 529922 | 245251 | 245251 | 459464 | 464403 | 493381 | 242322 | 242322 | 447679 | 6195927 |
| 14 USBR Obligation | 15103 | 1171 | 1056 | 9222 | 1156 | 4384 | 26969 | 26969 | 118809 | 93059 | 104344 | 36536 | 36536 | 55514 | 530828 |
| 15 USBR | 15103 | 1171 | 1056 | 9222 | 1156 | 4384 | 26969 | 26969 | 118809 | 93059 | 104344 | 36536 | 36536 | 55514 | 530828 |
| Total Power Sales Contracts | | | | | | | | | | | | | | | |
| 16 Cooperative | 754764 | 783204 | 936343 | 912207 | 802102 | 792049 | 376770 | 376770 | 751740 | 827308 | 912664 | 453269 | 453269 | 763810 | 9896270 |
| 17 Direct Service Industry | 133254 | 122936 | 127343 | 128589 | 118442 | 132274 | 64132 | 64132 | 126907 | 126345 | 127039 | 65709 | 65709 | 121544 | 1524357 |
| 18 Municipality | 752083 | 893001 | 1003249 | 968061 | 826936 | 883477 | 377414 | 380577 | 769738 | 650175 | 791444 | 394525 | 380699 | 712967 | 9784345 |
| 19 Public Utility District | 1327493 | 1513928 | 1696783 | 1606400 | 1342388 | 1432805 | 674828 | 681152 | 1523540 | 1324207 | 1451474 | 705649 | 678010 | 1182741 | 17141399 |
| 20 Federal Entities | 48730 | 54979 | 66399 | 66179 | 56471 | 60837 | 24728 | 24728 | 45936 | 47444 | 50976 | 25228 | 25228 | 42133 | 639996 |
| 21 USBR | 15103 | 1171 | 1056 | 9222 | 1156 | 4384 | 26969 | 26969 | 118809 | 93059 | 104344 | 36536 | 36536 | 55514 | 530828 |
| 22 Total Power Sales Contracts | 3031429 | 3369219 | 3831174 | 3690658 | 3147494 | 3305826 | 1544840 | 1554328 | 3336671 | 3068538 | 3437941 | 1680916 | 1639452 | 2878709 | 39517194 |

Table 1.2.3
Table A-6: BPA Sales to Preference and Legacy Customers
 Fiscal Year 2014 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|---------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Pacific Northwest | | | | | | | | | | | | | | | |
| 1 DSI Obligation | 98499 | 102859 | 103914 | 103216 | 91703 | 99561 | 48257 | 48257 | 105075 | 97418 | 105268 | 46804 | 54195 | 103741 | 1208766 |
| 2 Direct Service Industry | 98499 | 102859 | 103914 | 103216 | 91703 | 99561 | 48257 | 48257 | 105075 | 97418 | 105268 | 46804 | 54195 | 103741 | 1208766 |
| 3 Load Following | 839591 | 1019736 | 1186723 | 1168772 | 972781 | 948687 | 435864 | 435864 | 910611 | 859713 | 1008039 | 436869 | 505848 | 874249 | 11603347 |
| 4 Cooperative | 453197 | 539979 | 643756 | 625654 | 519795 | 504618 | 236563 | 236563 | 520292 | 508581 | 612731 | 260426 | 301546 | 499579 | 6463282 |
| 5 Municipality | 153358 | 188765 | 212720 | 213372 | 178684 | 174206 | 78073 | 78073 | 153837 | 141436 | 160536 | 73848 | 85508 | 152008 | 2044423 |
| 6 Public Utility District | 201493 | 249616 | 281016 | 282070 | 235318 | 229178 | 104621 | 104621 | 203912 | 180963 | 198598 | 87325 | 101113 | 192036 | 2651879 |
| 7 Federal Entities | 31543 | 41375 | 49230 | 47676 | 38985 | 40685 | 16607 | 16607 | 32570 | 28733 | 36174 | 15270 | 17681 | 30627 | 443763 |
| 8 Slice Right to Power | 435091 | 592240 | 608373 | 471464 | 402267 | 486316 | 232662 | 225180 | 800701 | 576142 | 599003 | 227593 | 239546 | 473802 | 6370379 |
| 9 Municipality | 145074 | 197474 | 202853 | 157202 | 134130 | 162155 | 77578 | 75083 | 266981 | 192106 | 199728 | 75887 | 79873 | 157982 | 2124106 |
| 10 Public Utility District | 290016 | 394767 | 405520 | 314261 | 268137 | 324161 | 155085 | 150097 | 533719 | 384037 | 399275 | 151705 | 159673 | 315820 | 4246273 |
| 11 Tier 1 Block | 516256 | 656883 | 782383 | 757674 | 615545 | 650549 | 252850 | 252850 | 476796 | 432184 | 522264 | 242163 | 280400 | 531636 | 6970434 |
| 12 Municipality | 170566 | 243398 | 284620 | 281338 | 234223 | 254514 | 82244 | 82244 | 117821 | 91954 | 151659 | 73472 | 85073 | 190861 | 2343987 |
| 13 Public Utility District | 345691 | 413485 | 497763 | 476336 | 381322 | 396035 | 170606 | 170606 | 358975 | 340230 | 370605 | 168691 | 195326 | 340775 | 4626447 |
| 14 USBR Obligation | 59348 | 18701 | 23388 | 825 | 10187 | 38542 | 61453 | 61453 | 124148 | 148788 | 194805 | 66484 | 76982 | 127332 | 1012435 |
| 15 USBR | 59348 | 18701 | 23388 | 825 | 10187 | 38542 | 61453 | 61453 | 124148 | 148788 | 194805 | 66484 | 76982 | 127332 | 1012435 |
| Total Power Sales Contracts | | | | | | | | | | | | | | | |
| 16 Cooperative | 453197 | 539979 | 643756 | 625654 | 519795 | 504618 | 236563 | 236563 | 520292 | 508581 | 612731 | 260426 | 301546 | 499579 | 6463282 |
| 17 Direct Service Industry | 98499 | 102859 | 103914 | 103216 | 91703 | 99561 | 48257 | 48257 | 105075 | 97418 | 105268 | 46804 | 54195 | 103741 | 1208766 |
| 18 Municipality | 468998 | 629636 | 700193 | 651912 | 547037 | 590875 | 237894 | 235399 | 538640 | 425495 | 511923 | 223208 | 250454 | 500851 | 6512515 |
| 19 Public Utility District | 837200 | 1057868 | 1184300 | 1072667 | 884776 | 949375 | 430312 | 425325 | 1096606 | 905230 | 968477 | 407721 | 456112 | 848630 | 11524599 |
| 20 Federal Entities | 31543 | 41375 | 49230 | 47676 | 38985 | 40685 | 16607 | 16607 | 32570 | 28733 | 36174 | 15270 | 17681 | 30627 | 443763 |
| 21 USBR | 59348 | 18701 | 23388 | 825 | 10187 | 38542 | 61453 | 61453 | 124148 | 148788 | 194805 | 66484 | 76982 | 127332 | 1012435 |
| 22 Total Power Sales Contracts | 1948785 | 2390420 | 2704781 | 2501950 | 2092482 | 2223655 | 1031086 | 1023604 | 2417332 | 2114246 | 2429379 | 1019913 | 1156970 | 2110759 | 27165360 |

Table 1.2.3 - continued
Table A-6: BPA Sales to Preference and Legacy Customers
 Fiscal Year 2015 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|---------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Pacific Northwest | | | | | | | | | | | | | | | |
| 1 DSI Obligation | 98499 | 102859 | 103914 | 103216 | 91703 | 99561 | 48257 | 48257 | 105076 | 97418 | 105268 | 46804 | 54195 | 103741 | 1208767 |
| 2 Direct Service Industry | 98499 | 102859 | 103914 | 103216 | 91703 | 99561 | 48257 | 48257 | 105076 | 97418 | 105268 | 46804 | 54195 | 103741 | 1208767 |
| 3 Load Following | 859444 | 1050536 | 1196763 | 1187360 | 988784 | 964967 | 443126 | 443126 | 933115 | 866304 | 1022827 | 444168 | 514300 | 890137 | 11804957 |
| 4 Cooperative | 467042 | 560159 | 650964 | 637162 | 529357 | 514668 | 240829 | 240829 | 533389 | 512252 | 623277 | 265714 | 307669 | 511466 | 6594776 |
| 5 Municipality | 157382 | 195487 | 214537 | 217467 | 182460 | 177860 | 79903 | 79903 | 159695 | 143264 | 164392 | 75652 | 87597 | 155660 | 2091257 |
| 6 Public Utility District | 203039 | 253023 | 281171 | 283949 | 237112 | 230877 | 105430 | 105430 | 206937 | 181249 | 200185 | 88013 | 101910 | 193608 | 2671934 |
| 7 Federal Entities | 31981 | 41867 | 50092 | 48781 | 39856 | 41563 | 16965 | 16965 | 33095 | 29538 | 34973 | 14789 | 17124 | 29404 | 446991 |
| 8 Slice Right to Power | 424396 | 569663 | 605545 | 498736 | 398280 | 476415 | 230577 | 224555 | 723012 | 481766 | 476668 | 247704 | 240001 | 427412 | 6024730 |
| 9 Municipality | 141508 | 189945 | 201910 | 166296 | 132801 | 158853 | 76882 | 74875 | 241077 | 160637 | 158938 | 82593 | 80025 | 142514 | 2008854 |
| 10 Public Utility District | 282887 | 379717 | 403635 | 332440 | 265480 | 317562 | 153694 | 149681 | 481935 | 321128 | 317730 | 165111 | 159977 | 284898 | 4015876 |
| 11 Tier 1 Block | 541742 | 723553 | 782935 | 795005 | 646040 | 682793 | 265455 | 265455 | 525082 | 431491 | 548066 | 254076 | 294194 | 557802 | 7313688 |
| 12 Municipality | 178497 | 267098 | 283920 | 294193 | 244946 | 266243 | 86233 | 86233 | 129943 | 92119 | 159055 | 76995 | 89152 | 199659 | 2454288 |
| 13 Public Utility District | 363244 | 456456 | 499015 | 500812 | 401094 | 416549 | 179222 | 179222 | 395139 | 339372 | 389011 | 177081 | 205042 | 358143 | 4859401 |
| 14 USBR Obligation | 59348 | 18707 | 23383 | 825 | 10187 | 38542 | 61453 | 61453 | 124400 | 148485 | 194805 | 66484 | 76982 | 127332 | 1012385 |
| 15 USBR | 59348 | 18707 | 23383 | 825 | 10187 | 38542 | 61453 | 61453 | 124400 | 148485 | 194805 | 66484 | 76982 | 127332 | 1012385 |
| Total Power Sales Contracts | | | | | | | | | | | | | | | |
| 16 Cooperative | 467042 | 560159 | 650964 | 637162 | 529357 | 514668 | 240829 | 240829 | 533389 | 512252 | 623277 | 265714 | 307669 | 511466 | 6594776 |
| 17 Direct Service Industry | 98499 | 102859 | 103914 | 103216 | 91703 | 99561 | 48257 | 48257 | 105076 | 97418 | 105268 | 46804 | 54195 | 103741 | 1208767 |
| 18 Municipality | 477387 | 652530 | 700366 | 677956 | 560206 | 602956 | 243018 | 241010 | 530716 | 396021 | 482384 | 235241 | 256774 | 497832 | 6554399 |
| 19 Public Utility District | 849171 | 1089196 | 1183821 | 1117201 | 903686 | 964988 | 438346 | 434332 | 1084010 | 841749 | 906927 | 430206 | 466928 | 836649 | 11547210 |
| 20 Federal Entities | 31981 | 41867 | 50092 | 48781 | 39856 | 41563 | 16965 | 16965 | 33095 | 29538 | 34973 | 14789 | 17124 | 29404 | 446991 |
| 21 USBR | 59348 | 18707 | 23383 | 825 | 10187 | 38542 | 61453 | 61453 | 124400 | 148485 | 194805 | 66484 | 76982 | 127332 | 1012385 |
| 22 Total Power Sales Contracts | 1983428 | 2465319 | 2712540 | 2585141 | 2134994 | 2262278 | 1048867 | 1042846 | 2410685 | 2025464 | 2347634 | 1059237 | 1179671 | 2106422 | 27364527 |

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|-------------|--|----|
| 1.3 | BPA Exports for FY2014 and FY2015..... | 15 |
| Table 1.3.1 | Table A-2: BPA Exports - Energy | 16 |
| Table 1.3.2 | Table A-2: BPA Exports - HLH MWh | 18 |
| Table 1.3.3 | Table A-2: BPA Exports - LLH MWh | 20 |

Table 1.3.1
Table A-2: Bonneville Power Administration - Power Services Exports
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Canada | | | | | | | | | | | | | | | |
| 1 BPA-P to BCHP Trty LCADel | 232 | 0 | 0 | 0 | 129 | 116 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39.5 |
| 2 BPA-P to BCHP Trty CEA | 488 | 488 | 488 | 488 | 488 | 488 | 488 | 488 | 488 | 488 | 488 | 479 | 449 | 464 | 484 |
| 3 BPA-P to BCHP NTSA Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33.7 | 136 | 136 | 0 | 14.4 |
| 4 Total Exports to CAN | 720 | 488 | 488 | 488 | 617 | 604 | 488 | 488 | 488 | 488 | 522 | 615 | 585 | 464 | 538 |
| East Continental Divide | | | | | | | | | | | | | | | |
| 5 BPA-P to Other Entities | 6.38 | 7.54 | 9.23 | 9.04 | 8.73 | 7.18 | 6.55 | 6.55 | 6.13 | 6.56 | 8.90 | 8.28 | 8.20 | 6.26 | 7.56 |
| 6 Total Exports to ECD | 6.38 | 7.54 | 9.23 | 9.04 | 8.73 | 7.18 | 6.55 | 6.55 | 6.13 | 6.56 | 8.90 | 8.28 | 8.20 | 6.26 | 7.56 |
| Pacific Southwest | | | | | | | | | | | | | | | |
| 7 BPA-P to PASA CNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.64 | 4.37 | 4.10 | 4.58 | 1.13 |
| 8 BPA-P to PASA SNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15.0 | 15.0 | 0 | 0 | 0 | 0 | 2.51 |
| 9 BPA-P to PG&E NSP SOut | 22.1 | 18.4 | 19.0 | 17.8 | 12.4 | 20.1 | 30.7 | 30.7 | 33.2 | 39.5 | 38.0 | 38.5 | 41.8 | 28.2 | 26.7 |
| 10 BPA-P to RVSD CNX Del | 11.1 | 2.62 | 2.66 | 2.78 | 2.68 | 2.54 | 2.75 | 2.75 | 0 | 0 | 11.1 | 10.5 | 9.84 | 11.0 | 4.98 |
| 11 BPA-P to RVSD SNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25.5 | 25.4 | 0 | 0 | 0 | 0 | 4.25 |
| 12 Intertie Losses | 1.0 | 0.6 | 0.6 | 0.6 | 0.5 | 0.7 | 1.0 | 1.0 | 2.2 | 2.4 | 1.6 | 1.6 | 1.7 | 1.3 | 1.2 |
| 13 Total Exports to PSW | 34.3 | 21.6 | 22.3 | 21.2 | 15.5 | 23.4 | 34.5 | 34.5 | 75.9 | 82.3 | 55.4 | 55.0 | 57.4 | 45.1 | 40.8 |
| Total Exports | | | | | | | | | | | | | | | |
| 14 Federal Entities | 761 | 517 | 520 | 519 | 642 | 635 | 529 | 529 | 570 | 577 | 586 | 679 | 651 | 515 | 586 |
| 15 Total Exports | 761 | 517 | 520 | 519 | 642 | 635 | 529 | 529 | 570 | 577 | 586 | 679 | 651 | 515 | 586 |

Table 1.3.1 - continued
Table A-2: Bonneville Power Administration - Power Services Exports
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Canada | | | | | | | | | | | | | | | |
| 1 BPA-P to BCHP Trty LCADel | 232 | 0 | 0 | 0 | 129 | 116 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39.5 |
| 2 BPA-P to BCHP Trty CEA | 464 | 464 | 464 | 464 | 464 | 464 | 464 | 464 | 464 | 464 | 464 | 488 | 457 | 472 | 465 |
| 3 BPA-P to BCHP NTSA Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32.5 | 135 | 135 | 0 | 14.2 |
| 4 Total Exports to CAN | 696 | 464 | 464 | 464 | 593 | 580 | 464 | 464 | 464 | 464 | 496 | 622 | 592 | 472 | 519 |
| East Continental Divide | | | | | | | | | | | | | | | |
| 5 BPA-P to Other Entities | 6.38 | 7.54 | 9.23 | 9.04 | 8.73 | 7.18 | 6.55 | 6.55 | 6.13 | 6.56 | 8.90 | 8.28 | 8.20 | 6.26 | 7.56 |
| 6 Total Exports to ECD | 6.38 | 7.54 | 9.23 | 9.04 | 8.73 | 7.18 | 6.55 | 6.55 | 6.13 | 6.56 | 8.90 | 8.28 | 8.20 | 6.26 | 7.56 |
| Pacific Southwest | | | | | | | | | | | | | | | |
| 7 BPA-P to PASA CNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 BPA-P to PASA SNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15.0 | 15.0 | 0 | 0 | 0 | 0 | 2.51 |
| 9 BPA-P to PG&E NSP SOut | 22.2 | 19.3 | 16.6 | 16.3 | 12.4 | 20.0 | 30.8 | 30.8 | 34.8 | 37.4 | 38.3 | 38.9 | 42.2 | 27.8 | 26.5 |
| 10 BPA-P to RVSD CNX Del | 11.1 | 2.50 | 2.78 | 2.66 | 2.68 | 2.67 | 2.75 | 2.75 | 0 | 0 | 11.1 | 10.5 | 9.84 | 11.0 | 4.98 |
| 11 BPA-P to RVSD SNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25.1 | 25.7 | 0 | 0 | 0 | 0 | 4.25 |
| 12 Intertie Losses | 1.0 | 0.7 | 0.6 | 0.6 | 0.5 | 0.7 | 1.0 | 1.0 | 2.2 | 2.3 | 1.5 | 1.5 | 1.6 | 1.2 | 1.1 |
| 13 Total Exports to PSW | 34.3 | 22.4 | 20.0 | 19.5 | 15.6 | 23.4 | 34.5 | 34.5 | 77.2 | 80.4 | 50.9 | 50.8 | 53.6 | 40.0 | 39.3 |
| Total Exports | | | | | | | | | | | | | | | |
| 14 Federal Entities | 736 | 494 | 493 | 492 | 617 | 610 | 505 | 505 | 547 | 551 | 556 | 682 | 654 | 518 | 566 |
| 15 Total Exports | 736 | 494 | 493 | 492 | 617 | 610 | 505 | 505 | 547 | 551 | 556 | 682 | 654 | 518 | 566 |

Table 1.3.2
Table A-2: Bonneville Power Administration - Power Services Exports
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|--------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Canada | | | | | | | | | | | | | | | |
| 1 BPA-P to BCHP Trty LCADel | 100224 | 0 | 0 | 0 | 49536 | 48256 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 198016 |
| 2 BPA-P to BCHP Trty CEA | 363305 | 352074 | 363305 | 363305 | 328146 | 362817 | 175792 | 175792 | 363305 | 351585 | 363305 | 172453 | 172453 | 333780 | 4241418 |
| 3 BPA-P to BCHP NTSA Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14019 | 28226 | 28226 | 0 | 70470 |
| 4 Total Exports to CAN | 463529 | 352074 | 363305 | 363305 | 377682 | 411073 | 175792 | 175792 | 363305 | 351585 | 377324 | 200679 | 200679 | 333780 | 4509904 |
| East Continental Divide | | | | | | | | | | | | | | | |
| 5 BPA-P to Other Entities | 2862 | 3098 | 3909 | 3802 | 3413 | 3151 | 1406 | 1406 | 2657 | 2974 | 4018 | 1917 | 1917 | 2694 | 39223 |
| 6 Total Exports to ECD | 2862 | 3098 | 3909 | 3802 | 3413 | 3151 | 1406 | 1406 | 2657 | 2974 | 4018 | 1917 | 1917 | 2694 | 39223 |
| Pacific Southwest | | | | | | | | | | | | | | | |
| 7 BPA-P to PASA CNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3300 | 1575 | 1575 | 3150 | 9600 |
| 8 BPA-P to PASA SNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6240 | 6000 | 0 | 0 | 0 | 0 | 12240 |
| 9 BPA-P to PG&E NSP SOut | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 BPA-P to RVSD CNX Del | 8280 | 1800 | 1890 | 1980 | 1800 | 1890 | 990 | 990 | 0 | 0 | 7920 | 3780 | 3780 | 7560 | 42660 |
| 11 BPA-P to RVSD SNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12780 | 12492 | 0 | 0 | 0 | 0 | 25272 |
| 12 Intertie Losses | 248 | 54 | 57 | 59 | 54 | 57 | 30 | 30 | 571 | 555 | 337 | 161 | 161 | 321 | 2693 |
| 13 Total Exports to PSW | 8529 | 1854 | 1947 | 2040 | 1854 | 1947 | 1020 | 1020 | 19591 | 19047 | 11557 | 5516 | 5516 | 11031 | 92466 |
| Total Exports | | | | | | | | | | | | | | | |
| 14 Federal Entities | 474920 | 357026 | 369161 | 369146 | 382949 | 416171 | 178218 | 178218 | 385552 | 373606 | 392899 | 208111 | 208111 | 347505 | 4641593 |
| 15 Total Exports | 474920 | 357026 | 369161 | 369146 | 382949 | 416171 | 178218 | 178218 | 385552 | 373606 | 392899 | 208111 | 208111 | 347505 | 4641593 |

Table 1.3.2 - continued
Table A-2: Bonneville Power Administration - Power Services Exports
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-I | Apr-II | May | Jun | Jul | Aug-I | Aug-II | Sep | Sum |
|--------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Canada | | | | | | | | | | | | | | | |
| 1 BPA-P to BCHP Trty LCADel | 100224 | 0 | 0 | 0 | 49536 | 48256 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 198016 |
| 2 BPA-P to BCHP Trty CEA | 344906 | 334244 | 344906 | 344906 | 311528 | 344443 | 166890 | 166890 | 344906 | 333780 | 344906 | 175615 | 175615 | 339900 | 4073436 |
| 3 BPA-P to BCHP NTSA Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13520 | 27872 | 27872 | 0 | 69264 |
| 4 Total Exports to CAN | 445130 | 334244 | 344906 | 344906 | 361064 | 392699 | 166890 | 166890 | 344906 | 333780 | 358426 | 203487 | 203487 | 339900 | 4340716 |
| East Continental Divide | | | | | | | | | | | | | | | |
| 5 BPA-P to Other Entities | 2862 | 3098 | 3909 | 3802 | 3413 | 3151 | 1406 | 1406 | 2656 | 2974 | 4018 | 1917 | 1917 | 2694 | 39223 |
| 6 Total Exports to ECD | 2862 | 3098 | 3909 | 3802 | 3413 | 3151 | 1406 | 1406 | 2656 | 2974 | 4018 | 1917 | 1917 | 2694 | 39223 |
| Pacific Southwest | | | | | | | | | | | | | | | |
| 7 BPA-P to PASA CNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 BPA-P to PASA SNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6000 | 6240 | 0 | 0 | 0 | 0 | 12240 |
| 9 BPA-P to PG&E NSP SOut | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 BPA-P to RVSD CNX Del | 8280 | 1710 | 1980 | 1890 | 1800 | 1980 | 990 | 990 | 0 | 0 | 8280 | 3780 | 3780 | 7560 | 43021 |
| 11 BPA-P to RVSD SNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12240 | 13032 | 0 | 0 | 0 | 0 | 25272 |
| 12 Intertie Losses | 248 | 51 | 59 | 57 | 54 | 59 | 30 | 30 | 547 | 578 | 248 | 113 | 113 | 227 | 2416 |
| 13 Total Exports to PSW | 8529 | 1761 | 2040 | 1947 | 1854 | 2040 | 1020 | 1020 | 18787 | 19850 | 8528 | 3893 | 3893 | 7787 | 82949 |
| Total Exports | | | | | | | | | | | | | | | |
| 14 Federal Entities | 456520 | 339104 | 350855 | 350654 | 366331 | 397890 | 169315 | 169315 | 366350 | 356604 | 370973 | 209297 | 209297 | 350381 | 4462888 |
| 15 Total Exports | 456520 | 339104 | 350855 | 350654 | 366331 | 397890 | 169315 | 169315 | 366350 | 356604 | 370973 | 209297 | 209297 | 350381 | 4462888 |

Table 1.3.3
Table A-2: Bonneville Power Administration - Power Services Exports
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-I | Apr-II | May | Jun | Jul | Aug-I | Aug-II | Sep | Sum |
|--------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Canada | | | | | | | | | | | | | | | |
| 1 BPA-P to BCHP Trty LCADel | 72384 | 0 | 0 | 0 | 37152 | 38048 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 147584 |
| 2 BPA-P to BCHP Trty CEA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 BPA-P to BCHP NTSA Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11054 | 20804 | 24089 | 0 | 55947 |
| 4 Total Exports to CAN | 72384 | 0 | 0 | 0 | 37152 | 38048 | 0 | 0 | 0 | 0 | 11054 | 20804 | 24089 | 0 | 203531 |
| East Continental Divide | | | | | | | | | | | | | | | |
| 5 BPA-P to Other Entities | 1883 | 2340 | 2960 | 2925 | 2455 | 2183 | 951 | 951 | 1905 | 1752 | 2603 | 1065 | 1233 | 1815 | 27020 |
| 6 Total Exports to ECD | 1883 | 2340 | 2960 | 2925 | 2455 | 2183 | 951 | 951 | 1905 | 1752 | 2603 | 1065 | 1233 | 1815 | 27020 |
| Pacific Southwest | | | | | | | | | | | | | | | |
| 7 BPA-P to PASA CNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 150 | 0 | 0 | 150 | 300 |
| 8 BPA-P to PASA SNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4920 | 4800 | 0 | 0 | 0 | 0 | 9720 |
| 9 BPA-P to PG&E NSP SOut | 16464 | 13248 | 14136 | 13256 | 8344 | 14968 | 11068 | 11068 | 24696 | 28472 | 28280 | 13869 | 16059 | 20336 | 234264 |
| 10 BPA-P to RVSD CNX Del | 0 | 89.9 | 90.1 | 89.9 | 0 | 0 | 0 | 0 | 0 | 0 | 360 | 0 | 0 | 360 | 990 |
| 11 BPA-P to RVSD SNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6156 | 5760 | 0 | 0 | 0 | 0 | 11916 |
| 12 Intertie Losses | 494 | 400 | 427 | 400 | 250 | 449 | 332 | 332 | 1073 | 1171 | 864 | 416 | 482 | 625 | 7716 |
| 13 Total Exports to PSW | 16958 | 13738 | 14653 | 13746 | 8594 | 15417 | 11400 | 11400 | 36845 | 40203 | 29654 | 14285 | 16541 | 21471 | 264906 |
| Total Exports | | | | | | | | | | | | | | | |
| 14 Federal Entities | 91225 | 16078 | 17613 | 16672 | 48201 | 55648 | 12351 | 12351 | 38750 | 41955 | 43311 | 36155 | 41863 | 23286 | 495458 |
| 15 Total Exports | 91225 | 16078 | 17613 | 16672 | 48201 | 55648 | 12351 | 12351 | 38750 | 41955 | 43311 | 36155 | 41863 | 23286 | 495458 |

Table 1.3.3 - continued
Table A-2: Bonneville Power Administration - Power Services Exports
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-I | Apr-II | May | Jun | Jul | Aug-I | Aug-II | Sep | Sum |
|--------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Canada | | | | | | | | | | | | | | | |
| 1 BPA-P to BCHP Trty LCADel | 72384 | 0 | 0 | 0 | 37152 | 38048 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 147584 |
| 2 BPA-P to BCHP Trty CEA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 BPA-P to BCHP NTSA Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10660 | 20597 | 23849 | 0 | 55106 |
| 4 Total Exports to CAN | 72384 | 0 | 0 | 0 | 37152 | 38048 | 0 | 0 | 0 | 0 | 10660 | 20597 | 23849 | 0 | 202690 |
| East Continental Divide | | | | | | | | | | | | | | | |
| 5 BPA-P to Other Entities | 1883 | 2340 | 2960 | 2925 | 2455 | 2183 | 951 | 951 | 1905 | 1752 | 2603 | 1065 | 1233 | 1815 | 27020 |
| 6 Total Exports to ECD | 1883 | 2340 | 2960 | 2925 | 2455 | 2183 | 951 | 951 | 1905 | 1752 | 2603 | 1065 | 1233 | 1815 | 27020 |
| Pacific Southwest | | | | | | | | | | | | | | | |
| 7 BPA-P to PASA CNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 BPA-P to PASA SNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5160 | 4560 | 0 | 0 | 0 | 0 | 9720 |
| 9 BPA-P to PG&E NSP SOut | 16512 | 13896 | 12352 | 12120 | 8352 | 14864 | 11072 | 11072 | 25896 | 26920 | 28488 | 13991 | 16201 | 20048 | 231784 |
| 10 BPA-P to RVSD CNX Del | 0 | 90.0 | 89.9 | 89.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 360 | 630 |
| 11 BPA-P to RVSD SNX Del | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6444 | 5472 | 0 | 0 | 0 | 0 | 11916 |
| 12 Intertie Losses | 495 | 420 | 373 | 366 | 251 | 446 | 332 | 332 | 1125 | 1109 | 855 | 420 | 486 | 612 | 7621 |
| 13 Total Exports to PSW | 17007 | 14405 | 12815 | 12576 | 8603 | 15310 | 11404 | 11404 | 38625 | 38060 | 29342 | 14411 | 16687 | 21020 | 261671 |
| Total Exports | | | | | | | | | | | | | | | |
| 14 Federal Entities | 91274 | 16745 | 15775 | 15502 | 48209 | 55541 | 12355 | 12355 | 40530 | 39812 | 42606 | 36073 | 41769 | 22835 | 491382 |
| 15 Total Exports | 91274 | 16745 | 15775 | 15502 | 48209 | 55541 | 12355 | 12355 | 40530 | 39812 | 42606 | 36073 | 41769 | 22835 | 491382 |

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|-------------|--|-----------|
| 2. | RESOURCE FORECASTS FOR FY2014 AND FY2015..... | 23 |
| 2.1 | Regulated Hydro | |
| Table 2.1.1 | Table A-7: BPA Regulated Hydro - Energy | 24 |
| Table 2.1.2 | Table A-7: BPA Regulated Hydro - HLH MWh | 26 |
| Table 2.1.3 | Table A-7: BPA Regulated Hydro - LLH MWh | 28 |

Table 2.1.1
Table A-7: Bonneville Power Administration - Power Services: Regulated Hydro
 Fiscal Year 2014
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Regulated Hydro | | | | | | | | | | | | | | | |
| 1 Albeni Falls | 32.6 | 19.5 | 19.7 | 14.6 | 12.3 | 12.7 | 26.3 | 19.7 | 38.7 | 43.5 | 35.7 | 25.9 | 20.6 | 23.9 | 25.0 |
| 2 Bonneville | 420 | 542 | 551 | 456 | 462 | 487 | 370 | 185 | 445 | 361 | 273 | 144 | 139 | 448 | 405 |
| 3 Chief Joseph | 908 | 1305 | 1276 | 956 | 900 | 918 | 906 | 1053 | 1577 | 1231 | 1471 | 1319 | 1086 | 971 | 1143 |
| 4 Dworshak | 57.9 | 57.7 | 57.5 | 57.3 | 57.0 | 57.0 | 57.4 | 58.3 | 64.0 | 212 | 449 | 448 | 344 | 181 | 143 |
| 5 Grand Coulee | 1631 | 2361 | 2262 | 1665 | 1567 | 1562 | 1491 | 1690 | 2533 | 2110 | 2687 | 2367 | 1910 | 1720 | 1989 |
| 6 Hunarv Horse | 81.7 | 86.4 | 86.9 | 88.0 | 87.1 | 84.8 | 64.4 | 26.3 | 27.4 | 78.8 | 114 | 113 | 113 | 111 | 83.8 |
| 7 Ice Harbor | 108 | 104 | 114 | 122 | 125 | 178 | 179 | 180 | 312 | 255 | 150 | 96.0 | 121 | 98.8 | 155 |
| 8 John Dav | 676 | 926 | 916 | 730 | 735 | 814 | 793 | 730 | 1089 | 958 | 844 | 698 | 581 | 723 | 818 |
| 9 Libbv | 93.9 | 267 | 175 | 87.8 | 87.0 | 86.2 | 85.7 | 85.7 | 517 | 220 | 185 | 187 | 187 | 185 | 182 |
| 10 Little Goose | 108 | 105 | 112 | 124 | 111 | 170 | 212 | 268 | 485 | 275 | 147 | 101 | 132 | 110 | 176 |
| 11 Lower Granite | 102 | 103 | 113 | 125 | 112 | 172 | 205 | 273 | 496 | 272 | 91.4 | 104 | 135 | 115 | 172 |
| 12 Lower Monumental | 111 | 106 | 116 | 125 | 129 | 183 | 232 | 292 | 514 | 291 | 99.2 | 84.5 | 133 | 104 | 180 |
| 13 McNarv | 459 | 598 | 591 | 475 | 478 | 508 | 459 | 398 | 617 | 501 | 401 | 332 | 274 | 496 | 488 |
| 14 The Dalles | 537 | 723 | 744 | 595 | 604 | 648 | 602 | 493 | 730 | 643 | 566 | 465 | 386 | 580 | 612 |
| Idle Capacity Adjustment | | | | | | | | | | | | | | | |
| 15 Idle Capacitv Adiustment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Regulated Hydro | | | | | | | | | | | | | | | |
| 16 Federal Entities | 5327 | 7304 | 7135 | 5623 | 5466 | 5881 | 5684 | 5752 | 9445 | 7451 | 7514 | 6484 | 5561 | 5867 | 6571 |
| 17 Total Regulated Hydro | 5327 | 7304 | 7135 | 5623 | 5466 | 5881 | 5684 | 5752 | 9445 | 7451 | 7514 | 6484 | 5561 | 5867 | 6571 |

Table 2.1.1 - continued
Table A-7: Bonneville Power Administration - Power Services: Regulated Hydro
 Fiscal Year 2015
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Regulated Hydro | | | | | | | | | | | | | | | |
| 1 Albeni Falls | 32.6 | 19.5 | 19.7 | 14.6 | 12.3 | 12.7 | 26.3 | 19.7 | 38.7 | 43.5 | 35.7 | 25.9 | 20.6 | 24.8 | 25.1 |
| 2 Bonneville | 415 | 542 | 551 | 493 | 462 | 489 | 368 | 183 | 411 | 327 | 238 | 169 | 138 | 384 | 395 |
| 3 Chief Joseph | 893 | 1278 | 1278 | 1069 | 900 | 895 | 932 | 1070 | 1478 | 1125 | 1366 | 1389 | 1143 | 776 | 1112 |
| 4 Dworshak | 57.9 | 57.7 | 57.5 | 57.3 | 57.0 | 57.0 | 57.4 | 58.3 | 64.0 | 212 | 449 | 448 | 344 | 181 | 143 |
| 5 Grand Coulee | 1603 | 2301 | 2278 | 1887 | 1573 | 1533 | 1539 | 1722 | 2367 | 1922 | 2485 | 2506 | 2021 | 1362 | 1938 |
| 6 Hunarv Horse | 81.7 | 86.4 | 86.9 | 88.0 | 87.1 | 84.8 | 64.4 | 26.3 | 27.4 | 78.8 | 114 | 113 | 113 | 111 | 83.8 |
| 7 Ice Harbor | 108 | 104 | 114 | 122 | 125 | 178 | 179 | 180 | 312 | 255 | 150 | 96.0 | 121 | 98.8 | 155 |
| 8 John Dav | 667 | 925 | 917 | 799 | 735 | 814 | 793 | 727 | 1041 | 912 | 799 | 728 | 605 | 608 | 804 |
| 9 Libbv | 93.9 | 267 | 175 | 87.8 | 87.0 | 86.2 | 85.7 | 85.7 | 517 | 220 | 185 | 187 | 187 | 185 | 182 |
| 10 Little Goose | 108 | 105 | 112 | 124 | 111 | 170 | 212 | 268 | 485 | 275 | 147 | 101 | 132 | 110 | 176 |
| 11 Lower Granite | 102 | 103 | 113 | 125 | 112 | 172 | 205 | 273 | 495 | 272 | 91.4 | 104 | 135 | 115 | 172 |
| 12 Lower Monumental | 111 | 106 | 116 | 125 | 129 | 183 | 232 | 292 | 514 | 291 | 99.2 | 84.5 | 133 | 104 | 180 |
| 13 McNarv | 453 | 597 | 591 | 521 | 478 | 508 | 459 | 396 | 590 | 477 | 379 | 346 | 285 | 415 | 479 |
| 14 The Dalles | 530 | 723 | 744 | 649 | 604 | 650 | 599 | 492 | 699 | 612 | 536 | 486 | 402 | 488 | 602 |
| Idle Capacity Adjustment | | | | | | | | | | | | | | | |
| 15 Idle Capacitv Adjustment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Regulated Hydro | | | | | | | | | | | | | | | |
| 16 Federal Entities | 5255 | 7216 | 7154 | 6161 | 5471 | 5833 | 5753 | 5794 | 9039 | 7021 | 7075 | 6784 | 5780 | 4963 | 6446 |
| 17 Total Regulated Hydro | 5255 | 7216 | 7154 | 6161 | 5471 | 5833 | 5753 | 5794 | 9039 | 7021 | 7075 | 6784 | 5780 | 4963 | 6446 |

Table 2.1.2
Table A-7: Bonneville Power Administration - Power Services: Regulated Hydro
 Fiscal Year 2014
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Regulated Hydro | | | | | | | | | | | | | | | |
| 1 Albeni Falls | 13871 | 7715 | 8029 | 6213 | 4705 | 5407 | 5406 | 4044 | 15745 | 17884 | 14530 | 5328 | 4527 | 9419 | 122822 |
| 2 Bonneville | 177341 | 211199 | 220051 | 194158 | 177696 | 205394 | 81194 | 37834 | 186200 | 143691 | 119294 | 32962 | 33011 | 173512 | 1993536 |
| 3 Chief Joseph | 483500 | 650237 | 648579 | 469945 | 397705 | 460680 | 216446 | 269503 | 806171 | 637296 | 737230 | 355392 | 288599 | 496647 | 6917929 |
| 4 Dworshak | 24609 | 22788 | 23416 | 24344 | 21893 | 24204 | 11812 | 11997 | 26051 | 86961 | 182937 | 92083 | 75382 | 71507 | 699982 |
| 5 Grand Coulee | 868339 | 1176829 | 1149472 | 818902 | 692891 | 784273 | 356128 | 432823 | 1294992 | 1092088 | 1346523 | 637964 | 507830 | 879841 | 12038896 |
| 6 Hunarv Horse | 34732 | 34139 | 35386 | 37420 | 33433 | 35989 | 13251 | 5414 | 11170 | 32416 | 46525 | 23343 | 24719 | 43881 | 411817 |
| 7 Ice Harbor | 51216 | 46258 | 62741 | 68567 | 63123 | 90229 | 40627 | 38790 | 129739 | 107799 | 64035 | 20458 | 29181 | 44024 | 856789 |
| 8 John Dav | 322890 | 410353 | 414719 | 350520 | 320801 | 390781 | 179122 | 165199 | 497335 | 449567 | 402242 | 163478 | 138233 | 327894 | 4533134 |
| 9 Libbv | 322890 | 410353 | 414719 | 350520 | 320801 | 390781 | 179122 | 165199 | 497335 | 449567 | 402242 | 163478 | 138233 | 327894 | 4533134 |
| 10 Little Goose | 51183 | 46807 | 61777 | 69956 | 56134 | 86408 | 48079 | 57524 | 201903 | 116513 | 63090 | 21556 | 31948 | 48984 | 961862 |
| 11 Lower Granite | 48349 | 45701 | 62466 | 70262 | 56710 | 87348 | 46527 | 58765 | 206670 | 115004 | 39120 | 22168 | 32670 | 51295 | 943056 |
| 12 Lower Monumental | 52668 | 47255 | 63906 | 70373 | 65144 | 92949 | 52663 | 62832 | 214073 | 123280 | 42456 | 18021 | 32007 | 46368 | 983994 |
| 13 McNarv | 219351 | 264883 | 267297 | 228187 | 208767 | 243916 | 103746 | 90022 | 281849 | 235306 | 191214 | 77674 | 65077 | 224918 | 2702206 |
| 14 The Dalles | 256406 | 320177 | 336919 | 285732 | 263523 | 311154 | 135962 | 111626 | 333285 | 301843 | 269809 | 108982 | 91793 | 263137 | 3390346 |
| Idle Capacity Adjustment | | | | | | | | | | | | | | | |
| 15 Idle Capacitv | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Regulated Hydro | | | | | | | | | | | | | | | |
| 16 Federal Entities | 2644379 | 3390028 | 3426254 | 2731926 | 2395935 | 2855343 | 1308595 | 1363992 | 4415529 | 3550034 | 3594206 | 1617912 | 1395979 | 2754491 | 37444601 |
| 17 Total Regulated Hydro | 2644379 | 3390028 | 3426254 | 2731926 | 2395935 | 2855343 | 1308595 | 1363992 | 4415529 | 3550034 | 3594206 | 1617912 | 1395979 | 2754491 | 37444601 |

Table 2.1.2 - continued
Table A-7: Bonneville Power Administration - Power Services: Regulated Hydro
 Fiscal Year 2015
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Regulated Hydro | | | | | | | | | | | | | | | |
| 1 Albeni Falls | 13841 | 7715 | 8029 | 6213 | 4705 | 5398 | 5406 | 4036 | 15745 | 17884 | 15161 | 5328 | 4527 | 9769 | 123758 |
| 2 Bonneville | 176154 | 211354 | 222585 | 209274 | 178147 | 205895 | 82860 | 37560 | 172765 | 127815 | 109117 | 38731 | 31329 | 150282 | 1953869 |
| 3 Chief Joseph | 472122 | 634511 | 642106 | 527060 | 402353 | 450639 | 222787 | 273314 | 752125 | 565831 | 758533 | 354854 | 311669 | 382120 | 6750024 |
| 4 Dworshak | 24609 | 22788 | 23416 | 24344 | 21893 | 24164 | 11812 | 11972 | 26051 | 86961 | 190891 | 92083 | 75382 | 71507 | 707872 |
| 5 Grand Coulee | 847380 | 1142447 | 1144839 | 930718 | 703440 | 771968 | 368098 | 439629 | 1204835 | 966407 | 1380468 | 640237 | 551018 | 671277 | 11762762 |
| 6 Hunarv Horse | 34732 | 34139 | 35386 | 37420 | 33433 | 35930 | 13251 | 5403 | 11170 | 32416 | 48547 | 23343 | 24719 | 43881 | 413770 |
| 7 Ice Harbor | 51216 | 46258 | 62741 | 68627 | 63123 | 90229 | 40627 | 38807 | 130670 | 107799 | 66643 | 20459 | 28627 | 43938 | 859765 |
| 8 John Dav | 317533 | 431803 | 418181 | 393601 | 319972 | 397868 | 183693 | 167077 | 485565 | 417079 | 391895 | 172503 | 145473 | 271532 | 4513775 |
| 9 Libbv | 39924 | 105688 | 71496 | 37348 | 33411 | 36552 | 17630 | 17584 | 210345 | 90386 | 78472 | 38504 | 41002 | 73064 | 891405 |
| 10 Little Goose | 51183 | 46807 | 61777 | 70017 | 56134 | 86408 | 48079 | 57547 | 203351 | 116513 | 65659 | 21557 | 31342 | 48888 | 965263 |
| 11 Lower Granite | 48349 | 45701 | 62466 | 70323 | 56710 | 87348 | 46527 | 58790 | 207614 | 115004 | 40713 | 22169 | 32050 | 51194 | 944960 |
| 12 Lower Monumental | 52668 | 47255 | 63906 | 70434 | 65144 | 92949 | 52663 | 62858 | 215609 | 123280 | 44185 | 18022 | 31400 | 46277 | 986649 |
| 13 McNarv | 215701 | 278724 | 269534 | 256571 | 208228 | 248339 | 106393 | 91018 | 274891 | 218078 | 186034 | 82075 | 68625 | 185373 | 2689584 |
| 14 The Dalles | 252166 | 337261 | 339389 | 319615 | 262842 | 317650 | 138734 | 112894 | 325817 | 280184 | 262852 | 115077 | 96710 | 217979 | 3379169 |
| Idle Capacity Adjustment | | | | | | | | | | | | | | | |
| 15 Idle Capacitv | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Regulated Hydro | | | | | | | | | | | | | | | |
| 16 Federal Entities | 2597580 | 3392450 | 3425850 | 3021565 | 2409534 | 2851338 | 1338561 | 1378489 | 4236555 | 3265638 | 3639171 | 1644942 | 1473874 | 2267080 | 36942625 |
| 17 Total Regulated Hydro | 2597580 | 3392450 | 3425850 | 3021565 | 2409534 | 2851338 | 1338561 | 1378489 | 4236555 | 3265638 | 3639171 | 1644942 | 1473874 | 2267080 | 36942625 |

Table 2.1.3
Table A-7: Bonneville Power Administration - Power Services: Regulated Hydro
 Fiscal Year 2014
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|----------------|----------------|----------------|---------------|---------------|----------------|-----------------|
| Regulated Hydro | | | | | | | | | | | | | | | |
| 1 Albeni Falls | 10403 | 6359 | 6633 | 4660 | 3529 | 4055 | 4055 | 3033 | 13027 | 13434 | 12003 | 3996 | 3395 | 7781 | 96362 |
| 2 Bonneville | 134950 | 179487 | 189860 | 145325 | 132748 | 156767 | 52158 | 28741 | 145129 | 116078 | 83616 | 19038 | 20425 | 149139 | 1553463 |
| 3 Chief Joseph | 192242 | 290390 | 300794 | 241156 | 206867 | 221062 | 109676 | 109424 | 366868 | 249382 | 357463 | 119268 | 128287 | 202389 | 3095268 |
| 4 Dworshak | 18457 | 18783 | 19344 | 18258 | 16420 | 18153 | 8859 | 8998 | 21554 | 65325 | 151122 | 69062 | 56536 | 59071 | 549940 |
| 5 Grand Coulee | 345256 | 525562 | 533096 | 420226 | 360409 | 376341 | 180455 | 175735 | 589318 | 427348 | 652894 | 214098 | 225738 | 358544 | 5385020 |
| 6 Hungry Horse | 26049 | 28139 | 29232 | 28065 | 25075 | 26992 | 9939 | 4060 | 9242 | 24351 | 38433 | 17507 | 18539 | 36250 | 321872 |
| 7 Ice Harbor | 29114 | 28719 | 22019 | 22129 | 20764 | 41831 | 23916 | 26157 | 102118 | 75479 | 47305 | 14094 | 17278 | 27136 | 498060 |
| 8 John Day | 180243 | 257620 | 267050 | 192887 | 172953 | 214125 | 106401 | 97579 | 313169 | 240072 | 225854 | 87775 | 84898 | 192453 | 2633079 |
| 9 Libby | 29943 | 87114 | 59062 | 28011 | 25058 | 27458 | 13222 | 13215 | 174035 | 67898 | 62123 | 28878 | 30752 | 60357 | 707127 |
| 10 Little Goose | 29095 | 29060 | 21681 | 22578 | 18465 | 40059 | 28302 | 38788 | 158919 | 81581 | 46607 | 14850 | 18917 | 30193 | 579095 |
| 11 Lower Granite | 27484 | 28374 | 21922 | 22676 | 18655 | 40495 | 27389 | 39626 | 162671 | 80524 | 28899 | 15272 | 19344 | 31618 | 564949 |
| 12 Lower Monumental | 29939 | 29338 | 22428 | 22712 | 21429 | 43092 | 31001 | 42368 | 168498 | 86318 | 31364 | 12415 | 18951 | 28581 | 588434 |
| 13 McNary | 122446 | 166293 | 172120 | 125569 | 112552 | 133652 | 61626 | 53174 | 177479 | 125655 | 107364 | 41705 | 39968 | 132012 | 1571616 |
| 14 The Dalles | 143130 | 201007 | 216952 | 157235 | 142073 | 170494 | 80764 | 65935 | 209867 | 161186 | 151494 | 58515 | 56376 | 154444 | 1969473 |
| Idle Capacity Adjustment | | | | | | | | | | | | | | | |
| 15 Idle Capacity Adjustment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Regulated Hydro | | | | | | | | | | | | | | | |
| 16 Federal Entities | 1318752 | 1876247 | 1882193 | 1451488 | 1276997 | 1514575 | 737761 | 706831 | 2611894 | 1814631 | 1996542 | 716474 | 739405 | 1469967 | 20113757 |
| 17 Total Regulated Hydro | 1318752 | 1876247 | 1882193 | 1451488 | 1276997 | 1514575 | 737761 | 706831 | 2611894 | 1814631 | 1996542 | 716474 | 739405 | 1469967 | 20113757 |

Table 2.1.3 - continued
Table A-7: Bonneville Power Administration - Power Services: Regulated Hydro
 Fiscal Year 2015
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|----------------|----------------|----------------|---------------|---------------|----------------|-----------------|
| Regulated Hydro | | | | | | | | | | | | | | | |
| 1 Albeni Falls | 10381 | 6359 | 6633 | 4660 | 3529 | 4064 | 4055 | 3042 | 13027 | 13434 | 11371 | 3996 | 3395 | 8070 | 96015 |
| 2 Bonneville | 132393 | 179332 | 187326 | 157249 | 132298 | 157135 | 49609 | 28291 | 133385 | 107385 | 67830 | 22108 | 21809 | 126130 | 1502280 |
| 3 Chief Joseph | 192241 | 286973 | 308378 | 267958 | 202269 | 214384 | 112608 | 112053 | 347213 | 244461 | 257403 | 145227 | 127285 | 176242 | 2994695 |
| 4 Dworshak | 18457 | 18783 | 19344 | 18258 | 16420 | 18192 | 8859 | 9022 | 21554 | 65325 | 143168 | 69062 | 56536 | 59071 | 542051 |
| 5 Grand Coulee | 345040 | 516700 | 549821 | 473178 | 353630 | 367251 | 186056 | 180239 | 556203 | 417526 | 468452 | 262023 | 225034 | 309607 | 5210760 |
| 6 Hunarv Horse | 26049 | 28139 | 29232 | 28065 | 25075 | 27050 | 9939 | 4071 | 9242 | 24351 | 36411 | 17507 | 18539 | 36250 | 319919 |
| 7 Ice Harbor | 29114 | 28719 | 22019 | 22070 | 20764 | 41831 | 23916 | 26141 | 101188 | 75479 | 44697 | 14093 | 17832 | 27222 | 495084 |
| 8 John Dav | 178796 | 235481 | 264276 | 200767 | 173782 | 207038 | 101830 | 94800 | 289237 | 239361 | 202869 | 89533 | 86852 | 165898 | 2530521 |
| 9 Libbv | 29943 | 87114 | 59062 | 28011 | 25058 | 27518 | 13222 | 13251 | 174035 | 67898 | 58854 | 28878 | 30752 | 60357 | 703953 |
| 10 Little Goose | 29095 | 29060 | 21681 | 22517 | 18465 | 40059 | 28302 | 38765 | 157470 | 81581 | 44038 | 14849 | 19523 | 30289 | 575693 |
| 11 Lower Granite | 27484 | 28374 | 21922 | 22615 | 18655 | 40495 | 27389 | 39601 | 160771 | 80524 | 27306 | 15270 | 19964 | 31718 | 562090 |
| 12 Lower Monumental | 29939 | 29338 | 22428 | 22651 | 21429 | 43092 | 31001 | 42342 | 166962 | 86318 | 29635 | 12414 | 19559 | 28672 | 585779 |
| 13 McNarv | 121457 | 152001 | 170336 | 130871 | 113092 | 129228 | 58979 | 51644 | 163745 | 125155 | 96302 | 42599 | 40972 | 113257 | 1509637 |
| 14 The Dalles | 141990 | 183924 | 214482 | 163028 | 142754 | 165295 | 76907 | 64057 | 194080 | 160797 | 136068 | 59728 | 57739 | 133179 | 1894026 |
| Idle Capacity Adjustment | | | | | | | | | | | | | | | |
| 15 Idle Capacitv Adiustment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Regulated Hydro | | | | | | | | | | | | | | | |
| 16 Federal Entities | 1312380 | 1810298 | 1896939 | 1561897 | 1267218 | 1482632 | 732670 | 707318 | 2488112 | 1789595 | 1624403 | 797288 | 745791 | 1305962 | 19522502 |
| 17 Total Regulated Hydro | 1312380 | 1810298 | 1896939 | 1561897 | 1267218 | 1482632 | 732670 | 707318 | 2488112 | 1789595 | 1624403 | 797288 | 745791 | 1305962 | 19522502 |

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|-------------|--|----|
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| Table 2.2.2 | Table A-8: BPA Independent Hydro - HLH MWh | 34 |
| Table 2.2.3 | Table A-8: BPA Independent Hydro - LLH MWh..... | 36 |

Table 2.2.1
Table A-8: Bonneville Power Administration - Power Services: Independent Hydro
 Fiscal Year 2014
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | 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 | 28.8 | 28.8 | 9.23 | 13.0 |
| 2 Bio Cliff | 8.00 | 13.0 | 6.00 | 4.00 | 6.00 | 7.00 | 9.00 | 11.0 | 20.0 | 20.0 | 7.00 | 6.00 | 6.00 | 9.00 | 9.66 |
| 3 Black Canvon | 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 | 8.53 | 6.19 |
| 4 Boise River Diversion | 0.73 | 0 | 0 | 0 | 0 | 0 | 0.87 | 0.87 | 2.50 | 2.50 | 2.50 | 1.83 | 1.83 | 2.47 | 1.12 |
| 5 Chandler | 5.70 | 7.34 | 3.38 | 5.51 | 7.47 | 9.80 | 6.06 | 6.06 | 5.97 | 5.80 | 6.09 | 2.21 | 2.21 | 2.00 | 5.60 |
| 6 Couaar | 27.0 | 23.0 | 9.00 | 6.00 | 8.00 | 10.00 | 29.0 | 29.0 | 29.0 | 29.0 | 17.0 | 23.0 | 22.0 | 16.0 | 18.8 |
| 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 | 11.9 | 8.50 | 7.90 | 26.2 |
| 8 Detroit | 44.9 | 47.5 | 20.9 | 21.7 | 17.7 | 25.3 | 34.6 | 37.2 | 102 | 37.9 | 13.0 | 11.7 | 11.5 | 20.2 | 33.3 |
| 9 Dexter | 12.0 | 16.0 | 4.00 | 3.00 | 5.00 | 5.00 | 12.0 | 17.0 | 17.0 | 17.0 | 6.00 | 5.00 | 7.00 | 6.00 | 9.29 |
| 10 Foster | 10.00 | 7.00 | 9.00 | 4.00 | 9.00 | 21.0 | 19.0 | 18.0 | 21.0 | 23.0 | 6.00 | 6.00 | 6.00 | 12.0 | 12.2 |
| 11 Green Peter | 18.0 | 16.0 | 18.0 | 8.00 | 0 | 33.0 | 88.0 | 45.0 | 58.0 | 49.0 | 11.0 | 15.0 | 15.0 | 29.0 | 26.9 |
| 12 Green Sprinas | 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 | 23.0 | 27.0 | 5.00 | 4.00 | 6.00 | 7.00 | 20.0 | 31.0 | 35.0 | 35.0 | 14.0 | 9.00 | 9.00 | 23.0 | 17.8 |
| 14 Idaho Falls - Citv Plant | 3.91 | 4.88 | 6.39 | 6.59 | 6.13 | 4.28 | 2.92 | 2.92 | 1.99 | 2.92 | 3.70 | 2.89 | 2.89 | 3.14 | 4.14 |
| 15 Idaho Falls - Lower Plant #1 | 3.91 | 4.88 | 6.39 | 6.59 | 6.13 | 4.28 | 2.92 | 2.92 | 1.99 | 2.92 | 3.70 | 2.89 | 2.89 | 3.14 | 4.14 |
| 16 Idaho Falls - Lower Plant #2 | 1.47 | 1.83 | 2.39 | 2.47 | 2.30 | 1.61 | 1.10 | 1.10 | 0.74 | 1.09 | 1.39 | 1.08 | 1.08 | 1.18 | 1.55 |
| 17 Idaho Falls - Upper Plant | 3.91 | 4.88 | 6.39 | 6.59 | 6.13 | 4.28 | 2.92 | 2.92 | 1.99 | 2.92 | 3.70 | 2.89 | 2.89 | 3.14 | 4.14 |
| 18 Lookout Point | 45.0 | 47.0 | 9.00 | 8.00 | 12.0 | 15.0 | 45.0 | 74.0 | 85.0 | 73.0 | 24.0 | 21.0 | 26.0 | 22.0 | 35.3 |
| 19 Lost Creek | 37.0 | 19.0 | 19.0 | 18.0 | 13.0 | 14.0 | 15.0 | 16.0 | 56.0 | 56.0 | 46.0 | 44.0 | 39.0 | 23.0 | 30.0 |
| 20 Minidoka | 6.48 | 2.39 | 2.32 | 2.32 | 2.57 | 2.32 | 10.3 | 10.3 | 24.6 | 22.7 | 21.7 | 20.7 | 20.7 | 15.2 | 11.2 |
| 21 Palisades | 45.5 | 11.3 | 11.2 | 11.4 | 12.8 | 28.2 | 51.7 | 51.7 | 152 | 151 | 127 | 118 | 118 | 105 | 69.2 |
| 22 Roza | 4.08 | 1.15 | 4.09 | 2.59 | 3.12 | 9.41 | 11.4 | 11.4 | 10.8 | 10.9 | 10.6 | 10.6 | 10.6 | 3.46 | 6.88 |
| Total Independent Hydro | | | | | | | | | | | | | | | |
| 23 Federal Entities | 321 | 271 | 179 | 145 | 152 | 251 | 434 | 445 | 718 | 664 | 403 | 361 | 358 | 332 | 354 |
| 24 Total Independent Hydro | 321 | 271 | 179 | 145 | 152 | 251 | 434 | 445 | 718 | 664 | 403 | 361 | 358 | 332 | 354 |

Table 2.2.1 - continued
Table A-8: Bonneville Power Administration - Power Services: Regulated Hydro
 Fiscal Year 2015
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | 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 | 28.8 | 28.8 | 9.23 | 13.0 |
| 2 Bia Cliff | 8.00 | 13.0 | 6.00 | 4.00 | 6.00 | 7.00 | 9.00 | 11.0 | 20.0 | 20.0 | 7.00 | 6.00 | 6.00 | 9.00 | 9.66 |
| 3 Black Canvon | 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 | 8.53 | 6.19 |
| 4 Boise River Diversion | 0.73 | 0 | 0 | 0 | 0 | 0 | 0.87 | 0.87 | 2.50 | 2.50 | 2.50 | 1.83 | 1.83 | 2.47 | 1.12 |
| 5 Chandler | 5.70 | 7.34 | 3.38 | 5.51 | 7.47 | 9.80 | 6.06 | 6.06 | 5.97 | 5.80 | 6.09 | 2.21 | 2.21 | 2.00 | 5.60 |
| 6 Couaar | 27.0 | 23.0 | 9.00 | 6.00 | 8.00 | 10.00 | 29.0 | 29.0 | 29.0 | 29.0 | 17.0 | 23.0 | 22.0 | 16.0 | 18.8 |
| 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 | 11.9 | 8.50 | 7.90 | 26.2 |
| 8 Detroit | 44.9 | 47.5 | 20.9 | 21.7 | 17.7 | 25.3 | 34.6 | 37.2 | 102 | 37.9 | 13.0 | 11.7 | 11.5 | 20.2 | 33.3 |
| 9 Dexter | 12.0 | 16.0 | 4.00 | 3.00 | 5.00 | 5.00 | 12.0 | 17.0 | 17.0 | 17.0 | 6.00 | 5.00 | 7.00 | 6.00 | 9.29 |
| 10 Foster | 10.00 | 7.00 | 9.00 | 4.00 | 9.00 | 21.0 | 19.0 | 18.0 | 21.0 | 23.0 | 6.00 | 6.00 | 6.00 | 12.0 | 12.2 |
| 11 Green Peter | 18.0 | 16.0 | 18.0 | 8.00 | 0 | 33.0 | 88.0 | 45.0 | 58.0 | 49.0 | 11.0 | 15.0 | 15.0 | 29.0 | 26.9 |
| 12 Green Sprinas | 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 | 23.0 | 27.0 | 5.00 | 4.00 | 6.00 | 7.00 | 20.0 | 31.0 | 35.0 | 35.0 | 14.0 | 9.00 | 9.00 | 23.0 | 17.8 |
| 14 Idaho Falls - Citv Plant | 3.91 | 4.88 | 6.39 | 6.59 | 6.13 | 4.28 | 2.92 | 2.92 | 1.99 | 2.92 | 3.70 | 2.89 | 2.89 | 3.14 | 4.14 |
| 15 Idaho Falls - Lower Plant #1 | 3.91 | 4.88 | 6.39 | 6.59 | 6.13 | 4.28 | 2.92 | 2.92 | 1.99 | 2.92 | 3.70 | 2.89 | 2.89 | 3.14 | 4.14 |
| 16 Idaho Falls - Lower Plant #2 | 1.47 | 1.83 | 2.39 | 2.47 | 2.30 | 1.61 | 1.10 | 1.10 | 0.74 | 1.09 | 1.39 | 1.08 | 1.08 | 1.18 | 1.55 |
| 17 Idaho Falls - Upper Plant | 3.91 | 4.88 | 6.39 | 6.59 | 6.13 | 4.28 | 2.92 | 2.92 | 1.99 | 2.92 | 3.70 | 2.89 | 2.89 | 3.14 | 4.14 |
| 18 Lookout Point | 45.0 | 47.0 | 9.00 | 8.00 | 12.0 | 15.0 | 45.0 | 74.0 | 85.0 | 73.0 | 24.0 | 21.0 | 26.0 | 22.0 | 35.3 |
| 19 Lost Creek | 37.0 | 19.0 | 19.0 | 18.0 | 13.0 | 14.0 | 15.0 | 16.0 | 56.0 | 56.0 | 46.0 | 44.0 | 39.0 | 23.0 | 30.0 |
| 20 Minidoka | 6.48 | 2.39 | 2.32 | 2.32 | 2.57 | 2.32 | 10.3 | 10.3 | 24.6 | 22.7 | 21.7 | 20.7 | 20.7 | 15.2 | 11.2 |
| 21 Palisades | 45.5 | 11.3 | 11.2 | 11.4 | 12.8 | 28.2 | 51.7 | 51.7 | 152 | 151 | 127 | 118 | 118 | 105 | 69.2 |
| 22 Roza | 4.08 | 1.15 | 4.09 | 2.59 | 3.12 | 9.41 | 11.4 | 11.4 | 10.8 | 10.9 | 10.6 | 10.6 | 10.6 | 3.46 | 6.88 |
| Total Independent Hydro | | | | | | | | | | | | | | | |
| 23 Federal Entities | 321 | 271 | 179 | 145 | 152 | 251 | 434 | 445 | 718 | 664 | 403 | 361 | 358 | 332 | 354 |
| 24 Total Independent Hydro | 321 | 271 | 179 | 145 | 152 | 251 | 434 | 445 | 718 | 664 | 403 | 361 | 358 | 332 | 354 |

Table 2.2.2
Table A-8: Bonneville Power Administration - Power Services: Independent Hydro
 Fiscal Year 2014
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|-----------------------------------|---------------|---------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|--------------|---------------|----------------|
| Independent Hydro | | | | | | | | | | | | | | | |
| 1 Anderson Ranch | 1773 | 1814 | 1858 | 1829 | 1817 | 1848 | 1913 | 1913 | 5032 | 15312 | 14005 | 5875 | 6267 | 3770 | 65026 |
| 2 Bio Cliff | 3348 | 5106 | 2384 | 1641 | 2284 | 2955 | 1843 | 2253 | 8153 | 8125 | 2797 | 1204 | 1285 | 3590 | 46969 |
| 3 Black Canvon | 2247 | 1476 | 1276 | 1387 | 1334 | 1788 | 1737 | 1737 | 3624 | 3499 | 3601 | 1720 | 1835 | 3514 | 30775 |
| 4 Boise River Diversion | 295 | 0 | 0 | 0 | 0 | 0 | 0 | 180 | 1073 | 1033 | 1060 | 377 | 402 | 1023 | 5444 |
| 5 Chandler | 2390 | 3168 | 1337 | 2297 | 2851 | 4150 | 1229 | 1229 | 2518 | 2328 | 2418 | 473 | 504 | 811 | 27703 |
| 6 Couaar | 11208 | 9204 | 3564 | 2439 | 3060 | 4222 | 5779 | 5779 | 11567 | 11921 | 6867 | 4784 | 4881 | 6307 | 91582 |
| 7 Cowlitz Falls | 2625 | 1213 | 9421 | 4112 | 5217 | 14115 | 9398 | 10254 | 26188 | 27333 | 11502 | 2409 | 1835 | 3308 | 128931 |
| 8 Detroit | 26259 | 26124 | 9974 | 11046 | 8322 | 14099 | 9615 | 10337 | 54964 | 20352 | 7898 | 3614 | 3789 | 11383 | 217776 |
| 9 Dexter | 5010 | 6339 | 1593 | 1224 | 1905 | 2141 | 2483 | 3518 | 6901 | 6994 | 2427 | 1023 | 1527 | 2304 | 45390 |
| 10 Foster | 4185 | 2779 | 3627 | 1638 | 3413 | 8894 | 3922 | 3716 | 8567 | 9336 | 2423 | 1237 | 1319 | 4773 | 59827 |
| 11 Green Peter | 10939 | 7896 | 8334 | 3836 | 0 | 17655 | 23178 | 11852 | 28359 | 25639 | 6619 | 4551 | 4855 | 16985 | 170697 |
| 12 Green Sprinas | 2613 | 4036 | 4588 | 4776 | 4108 | 5115 | 2311 | 2311 | 4521 | 4529 | 3998 | 1958 | 2088 | 3161 | 50111 |
| 13 Hills Creek | 9645 | 10643 | 2007 | 1639 | 2262 | 2967 | 4096 | 6349 | 14185 | 14303 | 5643 | 1851 | 1975 | 9016 | 86580 |
| 14 Idaho Falls - Citv Plant | 1649 | 2020 | 2704 | 2823 | 2338 | 1830 | 604 | 604 | 852 | 1212 | 1579 | 596 | 635 | 1292 | 20736 |
| 15 Idaho Falls - Lower Plant #1 | 1649 | 2020 | 2704 | 2823 | 2338 | 1830 | 604 | 604 | 852 | 1212 | 1579 | 596 | 635 | 1292 | 20736 |
| 16 Idaho Falls - Lower Plant #2 | 622 | 753 | 1015 | 1049 | 881 | 680 | 225 | 225 | 316 | 449 | 589 | 222 | 237 | 484 | 7746 |
| 17 Idaho Falls - Upper Plant | 1649 | 2020 | 2704 | 2823 | 2338 | 1830 | 604 | 604 | 852 | 1212 | 1579 | 596 | 635 | 1292 | 20736 |
| 18 Lookout Point | 28081 | 26133 | 4414 | 3929 | 5999 | 9078 | 12540 | 20621 | 47959 | 43940 | 14303 | 6400 | 8451 | 12605 | 244453 |
| 19 Lost Creek | 15443 | 7836 | 7689 | 7441 | 4917 | 5981 | 3081 | 3286 | 22942 | 23016 | 18703 | 9094 | 8598 | 8954 | 146981 |
| 20 Minidoka | 2682 | 992 | 988 | 992 | 1087 | 986 | 2097 | 2097 | 10493 | 9332 | 9127 | 4238 | 4521 | 6310 | 55942 |
| 21 Palisades | 19262 | 4630 | 4699 | 4896 | 4909 | 12059 | 10567 | 10567 | 65062 | 61993 | 53674 | 24350 | 25973 | 43131 | 345771 |
| 22 Roza | 1679 | 0 | 1647 | 1090 | 1200 | 3998 | 2359 | 2359 | 4546 | 4523 | 4314 | 2215 | 2363 | 0 | 32292 |
| Total Independent Hydro | | | | | | | | | | | | | | | |
| 23 Federal Entities | 155254 | 126203 | 78527 | 65728 | 62580 | 118220 | 100183 | 102393 | 329523 | 297596 | 176702 | 79382 | 84611 | 145303 | 1922204 |
| 24 Total Independent Hydro | 155254 | 126203 | 78527 | 65728 | 62580 | 118220 | 100183 | 102393 | 329523 | 297596 | 176702 | 79382 | 84611 | 145303 | 1922204 |

Table 2.2.2 - continued
Table A-8: Bonneville Power Administration - Power Services: Independent Hydro
 Fiscal Year 2015
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|-----------------------------------|---------------|---------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|--------------|---------------|----------------|
| Independent Hydro | | | | | | | | | | | | | | | |
| 1 Anderson Ranch | 1773 | 1814 | 1858 | 1829 | 1817 | 1848 | 1913 | 1913 | 5032 | 15312 | 14005 | 5875 | 6267 | 3770 | 65026 |
| 2 Bio Cliff | 3348 | 5106 | 2384 | 1641 | 2284 | 2955 | 1843 | 2253 | 8153 | 8125 | 2797 | 1204 | 1285 | 3590 | 46969 |
| 3 Black Canvon | 2247 | 1476 | 1276 | 1387 | 1334 | 1788 | 1737 | 1737 | 3624 | 3499 | 3601 | 1720 | 1835 | 3514 | 30775 |
| 4 Boise River Diversion | 295 | 0 | 0 | 0 | 0 | 0 | 0 | 180 | 1073 | 1033 | 1060 | 377 | 402 | 1023 | 5444 |
| 5 Chandler | 2390 | 3168 | 1337 | 2297 | 2851 | 4150 | 1229 | 1229 | 2518 | 2328 | 2418 | 473 | 504 | 811 | 27703 |
| 6 Couaar | 11208 | 9204 | 3564 | 2439 | 3060 | 4222 | 5779 | 5779 | 11567 | 11921 | 6867 | 4784 | 4881 | 6307 | 91582 |
| 7 Cowlitz Falls | 2625 | 1213 | 9421 | 4112 | 5217 | 14115 | 9398 | 10254 | 26188 | 27333 | 11502 | 2409 | 1835 | 3308 | 128931 |
| 8 Detroit | 26259 | 26124 | 9974 | 11046 | 8322 | 14099 | 9615 | 10337 | 54964 | 20352 | 7898 | 3614 | 3789 | 11383 | 217776 |
| 9 Dexter | 5010 | 6339 | 1593 | 1224 | 1905 | 2141 | 2483 | 3518 | 6901 | 6994 | 2427 | 1023 | 1527 | 2304 | 45390 |
| 10 Foster | 4185 | 2779 | 3627 | 1638 | 3413 | 8894 | 3922 | 3716 | 8567 | 9336 | 2423 | 1237 | 1319 | 4773 | 59827 |
| 11 Green Peter | 10939 | 7896 | 8334 | 3836 | 0 | 17655 | 23178 | 11852 | 28359 | 25639 | 6619 | 4551 | 4855 | 16985 | 170697 |
| 12 Green Sprinas | 2613 | 4036 | 4588 | 4776 | 4108 | 5115 | 2311 | 2311 | 4521 | 4529 | 3998 | 1958 | 2088 | 3161 | 50111 |
| 13 Hills Creek | 9645 | 10643 | 2007 | 1639 | 2262 | 2967 | 4096 | 6349 | 14185 | 14303 | 5643 | 1851 | 1975 | 9016 | 86580 |
| 14 Idaho Falls - Citv Plant | 1649 | 2020 | 2704 | 2823 | 2338 | 1830 | 604 | 604 | 852 | 1212 | 1579 | 596 | 635 | 1292 | 20736 |
| 15 Idaho Falls - Lower Plant #1 | 1649 | 2020 | 2704 | 2823 | 2338 | 1830 | 604 | 604 | 852 | 1212 | 1579 | 596 | 635 | 1292 | 20736 |
| 16 Idaho Falls - Lower Plant #2 | 622 | 753 | 1015 | 1049 | 881 | 680 | 225 | 225 | 316 | 449 | 589 | 222 | 237 | 484 | 7746 |
| 17 Idaho Falls - Upper Plant | 1649 | 2020 | 2704 | 2823 | 2338 | 1830 | 604 | 604 | 852 | 1212 | 1579 | 596 | 635 | 1292 | 20736 |
| 18 Lookout Point | 28081 | 26133 | 4414 | 3929 | 5999 | 9078 | 12540 | 20621 | 47959 | 43940 | 14303 | 6400 | 8451 | 12605 | 244453 |
| 19 Lost Creek | 15443 | 7836 | 7689 | 7441 | 4917 | 5981 | 3081 | 3286 | 22942 | 23016 | 18703 | 9094 | 8598 | 8954 | 146981 |
| 20 Minidoka | 2682 | 992 | 988 | 992 | 1087 | 986 | 2097 | 2097 | 10493 | 9332 | 9127 | 4238 | 4521 | 6310 | 55942 |
| 21 Palisades | 19262 | 4630 | 4699 | 4896 | 4909 | 12059 | 10567 | 10567 | 65062 | 61993 | 53674 | 24350 | 25973 | 43131 | 345771 |
| 22 Roza | 1679 | 0 | 1647 | 1090 | 1200 | 3998 | 2359 | 2359 | 4546 | 4523 | 4314 | 2215 | 2363 | 0 | 32292 |
| Total Independent Hydro | | | | | | | | | | | | | | | |
| 23 Federal Entities | 155254 | 126203 | 78527 | 65728 | 62580 | 118220 | 100183 | 102393 | 329523 | 297596 | 176702 | 79382 | 84611 | 145303 | 1922204 |
| 24 Total Independent Hydro | 155254 | 126203 | 78527 | 65728 | 62580 | 118220 | 100183 | 102393 | 329523 | 297596 | 176702 | 79382 | 84611 | 145303 | 1922204 |

Table 2.2.3
Table A-8: Bonneville Power Administration - Power Services: Independent Hydro
 Fiscal Year 2014
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|-----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|--------------|--------------|--------------|----------------|
| Independent Hydro | | | | | | | | | | | | | | | |
| 1 Anderson Ranch | 1346 | 1327 | 1319 | 1377 | 1381 | 1352 | 1473 | 1473 | 3746 | 11295 | 10723 | 4491 | 4791 | 2878 | 48973 |
| 2 Bio Cliff | 2604 | 4267 | 2080 | 1335 | 1748 | 2246 | 1397 | 1707 | 6727 | 6275 | 2411 | 956 | 1019 | 2890 | 37661 |
| 3 Black Canvon | 1809 | 1128 | 945 | 1048 | 1037 | 1323 | 1334 | 1334 | 2721 | 2641 | 2744 | 1350 | 1440 | 2626 | 23481 |
| 4 Boise River Diversion | 250 | 0 | 0 | 0 | 0 | 0 | 315 | 135 | 785 | 764 | 797 | 283 | 302 | 758 | 4390 |
| 5 Chandler | 1853 | 2126 | 1177 | 1805 | 2169 | 3134 | 952 | 952 | 1926 | 1848 | 2115 | 321 | 343 | 632 | 21355 |
| 6 Coudar | 8880 | 7379 | 3132 | 2025 | 2316 | 3208 | 4661 | 4661 | 10009 | 8959 | 5781 | 3496 | 3567 | 5213 | 73287 |
| 7 Cowlitz Falls | 1988 | 1022 | 7765 | 3328 | 3990 | 10627 | 7198 | 7854 | 21130 | 20403 | 10000 | 1875 | 1429 | 2380 | 100988 |
| 8 Detroit | 7146 | 8123 | 5576 | 5099 | 3572 | 4699 | 2841 | 3055 | 20627 | 6936 | 1774 | 598 | 627 | 3161 | 73835 |
| 9 Dexter | 3918 | 5197 | 1383 | 1008 | 1455 | 1574 | 1837 | 2602 | 5747 | 5246 | 2037 | 777 | 1161 | 2016 | 35957 |
| 10 Foster | 3255 | 2268 | 3069 | 1338 | 2635 | 6709 | 2918 | 2764 | 7057 | 7224 | 2041 | 923 | 985 | 3867 | 47055 |
| 11 Green Peter | 2453 | 3640 | 5058 | 2116 | 0 | 6864 | 8502 | 4348 | 14793 | 9641 | 1565 | 849 | 905 | 3895 | 64630 |
| 12 Green Sprinas | 1121 | 250 | 128 | 388 | 425 | 809 | 662 | 662 | 2009 | 1937 | 1960 | 899 | 959 | 1811 | 14021 |
| 13 Hills Creek | 7467 | 8824 | 1713 | 1337 | 1770 | 2234 | 3104 | 4811 | 11855 | 10897 | 4773 | 1389 | 1481 | 7544 | 69200 |
| 14 Idaho Falls - Citv Plant | 1260 | 1502 | 2047 | 2084 | 1781 | 1351 | 449 | 449 | 626 | 890 | 1176 | 444 | 473 | 972 | 15504 |
| 15 Idaho Falls - Lower Plant #1 | 1260 | 1502 | 2047 | 2084 | 1781 | 1351 | 449 | 449 | 626 | 890 | 1176 | 444 | 473 | 972 | 15504 |
| 16 Idaho Falls - Lower Plant #2 | 469 | 568 | 766 | 791 | 664 | 513 | 170 | 170 | 238 | 339 | 444 | 168 | 179 | 365 | 5844 |
| 17 Idaho Falls - Upper Plant | 1260 | 1502 | 2047 | 2084 | 1781 | 1351 | 449 | 449 | 626 | 890 | 1176 | 444 | 473 | 972 | 15504 |
| 18 Lookout Point | 5399 | 7754 | 2282 | 2023 | 2065 | 2067 | 3660 | 6019 | 15281 | 8620 | 3553 | 1160 | 1533 | 3235 | 64651 |
| 19 Lost Creek | 12085 | 5863 | 6447 | 5951 | 3819 | 4421 | 2319 | 2474 | 18722 | 17304 | 15521 | 6746 | 6378 | 7606 | 115656 |
| 20 Minidoka | 2142 | 735 | 736 | 732 | 637 | 736 | 1622 | 1622 | 7780 | 7019 | 6982 | 3214 | 3428 | 4628 | 42012 |
| 21 Palisades | 14596 | 3491 | 3602 | 3573 | 3706 | 8894 | 8055 | 8055 | 48141 | 47051 | 40872 | 18103 | 19310 | 32545 | 259995 |
| 22 Roza | 1353 | 829 | 1395 | 839 | 898 | 2992 | 1748 | 1748 | 3496 | 3347 | 3579 | 1585 | 1691 | 2492 | 27993 |
| Total Independent Hydro | | | | | | | | | | | | | | | |
| 23 Federal Entities | 83916 | 69297 | 54715 | 42365 | 39632 | 68454 | 56115 | 57793 | 204669 | 180414 | 123202 | 50516 | 52948 | 93459 | 1177493 |
| 24 Total Independent Hydro | 83916 | 69297 | 54715 | 42365 | 39632 | 68454 | 56115 | 57793 | 204669 | 180414 | 123202 | 50516 | 52948 | 93459 | 1177493 |

Table 2.2.3 -continued
Table A-8: Bonneville Power Administration - Power Services: Independent Hydro
 Fiscal Year 2015
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|-----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|--------------|--------------|--------------|----------------|
| Independent Hydro | | | | | | | | | | | | | | | |
| 1 Anderson Ranch | 1346 | 1327 | 1319 | 1377 | 1381 | 1352 | 1473 | 1473 | 3746 | 11295 | 10723 | 4491 | 4791 | 2878 | 48973 |
| 2 Bio Cliff | 2604 | 4267 | 2080 | 1335 | 1748 | 2246 | 1397 | 1707 | 6727 | 6275 | 2411 | 956 | 1019 | 2890 | 37661 |
| 3 Black Canvon | 1809 | 1128 | 945 | 1048 | 1037 | 1323 | 1334 | 1334 | 2721 | 2641 | 2744 | 1350 | 1440 | 2626 | 23481 |
| 4 Boise River Diversion | 250 | 0 | 0 | 0 | 0 | 0 | 315 | 135 | 785 | 764 | 797 | 283 | 302 | 758 | 4390 |
| 5 Chandler | 1853 | 2126 | 1177 | 1805 | 2169 | 3134 | 952 | 952 | 1926 | 1848 | 2115 | 321 | 343 | 632 | 21355 |
| 6 Coudar | 8880 | 7379 | 3132 | 2025 | 2316 | 3208 | 4661 | 4661 | 10009 | 8959 | 5781 | 3496 | 3567 | 5213 | 73287 |
| 7 Cowlitz Falls | 1988 | 1022 | 7765 | 3328 | 3990 | 10627 | 7198 | 7854 | 21130 | 20403 | 10000 | 1875 | 1429 | 2380 | 100988 |
| 8 Detroit | 7146 | 8123 | 5576 | 5099 | 3572 | 4699 | 2841 | 3055 | 20627 | 6936 | 1774 | 598 | 627 | 3161 | 73835 |
| 9 Dexter | 3918 | 5197 | 1383 | 1008 | 1455 | 1574 | 1837 | 2602 | 5747 | 5246 | 2037 | 777 | 1161 | 2016 | 35957 |
| 10 Foster | 3255 | 2268 | 3069 | 1338 | 2635 | 6709 | 2918 | 2764 | 7057 | 7224 | 2041 | 923 | 985 | 3867 | 47055 |
| 11 Green Peter | 2453 | 3640 | 5058 | 2116 | 0 | 6864 | 8502 | 4348 | 14793 | 9641 | 1565 | 849 | 905 | 3895 | 64630 |
| 12 Green Sprinas | 1121 | 250 | 128 | 388 | 425 | 809 | 662 | 662 | 2009 | 1937 | 1960 | 899 | 959 | 1811 | 14021 |
| 13 Hills Creek | 7467 | 8824 | 1713 | 1337 | 1770 | 2234 | 3104 | 4811 | 11855 | 10897 | 4773 | 1389 | 1481 | 7544 | 69200 |
| 14 Idaho Falls - Citv Plant | 1260 | 1502 | 2047 | 2084 | 1781 | 1351 | 449 | 449 | 626 | 890 | 1176 | 444 | 473 | 972 | 15504 |
| 15 Idaho Falls - Lower Plant #1 | 1260 | 1502 | 2047 | 2084 | 1781 | 1351 | 449 | 449 | 626 | 890 | 1176 | 444 | 473 | 972 | 15504 |
| 16 Idaho Falls - Lower Plant #2 | 469 | 568 | 766 | 791 | 664 | 513 | 170 | 170 | 238 | 339 | 444 | 168 | 179 | 365 | 5844 |
| 17 Idaho Falls - Upper Plant | 1260 | 1502 | 2047 | 2084 | 1781 | 1351 | 449 | 449 | 626 | 890 | 1176 | 444 | 473 | 972 | 15504 |
| 18 Lookout Point | 5399 | 7754 | 2282 | 2023 | 2065 | 2067 | 3660 | 6019 | 15281 | 8620 | 3553 | 1160 | 1533 | 3235 | 64651 |
| 19 Lost Creek | 12085 | 5863 | 6447 | 5951 | 3819 | 4421 | 2319 | 2474 | 18722 | 17304 | 15521 | 6746 | 6378 | 7606 | 115656 |
| 20 Minidoka | 2142 | 735 | 736 | 732 | 637 | 736 | 1622 | 1622 | 7780 | 7019 | 6982 | 3214 | 3428 | 4628 | 42012 |
| 21 Palisades | 14596 | 3491 | 3602 | 3573 | 3706 | 8894 | 8055 | 8055 | 48141 | 47051 | 40872 | 18103 | 19310 | 32545 | 259995 |
| 22 Roza | 1353 | 829 | 1395 | 839 | 898 | 2992 | 1748 | 1748 | 3496 | 3347 | 3579 | 1585 | 1691 | 2492 | 27993 |
| Total Independent Hydro | | | | | | | | | | | | | | | |
| 23 Federal Entities | 83916 | 69297 | 54715 | 42365 | 39632 | 68454 | 56115 | 57793 | 204669 | 180414 | 123202 | 50516 | 52948 | 93459 | 1177493 |
| 24 Total Independent Hydro | 83916 | 69297 | 54715 | 42365 | 39632 | 68454 | 56115 | 57793 | 204669 | 180414 | 123202 | 50516 | 52948 | 93459 | 1177493 |

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| 2.3 | Cogeneration Resources..... | 39 |
| Table 2.3.1 | Table A-12: BPA Cogeneration Resources - Energy | 40 |
| Table 2.3.2 | Table A-12: BPA Cogeneration Resources - HLH MWh | 42 |
| Table 2.3.3 | Table A-12: BPA Cogeneration Resources - LLH MWh..... | 44 |

Table 2.3.1
Table A-12: Bonneville Power Administration - Power Services: Cogeneration Resources
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Cogeneration Resources | | | | | | | | | | | | | | | |
| 1 Georgia-Pacific Paper | 18.4 | 19.6 | 22.6 | 24.0 | 23.0 | 23.0 | 22.0 | 22.0 | 19.1 | 14.2 | 18.1 | 12.4 | 12.4 | 14.4 | 19.2 |
| Total Cogeneration Resources | | | | | | | | | | | | | | | |
| 2 Federal Entities | 18.4 | 19.6 | 22.6 | 24.0 | 23.0 | 23.0 | 22.0 | 22.0 | 19.1 | 14.2 | 18.1 | 12.4 | 12.4 | 14.4 | 19.2 |
| 3 Total | 18.4 | 19.6 | 22.6 | 24.0 | 23.0 | 23.0 | 22.0 | 22.0 | 19.1 | 14.2 | 18.1 | 12.4 | 12.4 | 14.4 | 19.2 |

Table 2.3.1 - continued
Table A-12: Bonneville Power Administration - Power Services: Cogeneration Resources
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Cogeneration Resources | | | | | | | | | | | | | | | |
| 1 Georgia-Pacific Paper | 18.4 | 19.6 | 22.6 | 24.0 | 23.0 | 23.0 | 22.0 | 22.0 | 19.1 | 14.2 | 18.1 | 12.4 | 12.4 | 14.4 | 19.2 |
| Total Cogeneration Resources | | | | | | | | | | | | | | | |
| 2 Federal Entities | 18.4 | 19.6 | 22.6 | 24.0 | 23.0 | 23.0 | 22.0 | 22.0 | 19.1 | 14.2 | 18.1 | 12.4 | 12.4 | 14.4 | 19.2 |
| 3 Total | 18.4 | 19.6 | 22.6 | 24.0 | 23.0 | 23.0 | 22.0 | 22.0 | 19.1 | 14.2 | 18.1 | 12.4 | 12.4 | 14.4 | 19.2 |

Table 2.3.2
Table A-12: Bonneville Power Administration - Power Services: Cogeneration Resources
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Cogeneration Resources | | | | | | | | | | | | | | | |
| 1 Georgia-Pacific Paper | 7936 | 7840 | 9044 | 9963 | 8844 | 9551 | 4574 | 4574 | 7929 | 5680 | 7538 | 2583 | 2583 | 5776 | 94415 |
| Total Cogeneration Resources | | | | | | | | | | | | | | | |
| 2 Federal Entities | 7936 | 7840 | 9044 | 9963 | 8844 | 9551 | 4574 | 4574 | 7929 | 5680 | 7538 | 2583 | 2583 | 5776 | 94415 |
| 3 Total | 7936 | 7840 | 9044 | 9963 | 8844 | 9551 | 4574 | 4574 | 7929 | 5680 | 7538 | 2583 | 2583 | 5776 | 94415 |

Table 2.3.2 - continued
Table A-12: Bonneville Power Administration - Power Services: Cogeneration Resources
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Cogeneration Resources | | | | | | | | | | | | | | | |
| 1 Georgia-Pacific Paper | 7936 | 7526 | 9406 | 9963 | 8844 | 9551 | 4574 | 4574 | 7624 | 5907 | 7538 | 2583 | 2583 | 5776 | 94386 |
| Total Cogeneration Resources | | | | | | | | | | | | | | | |
| 2 Federal Entities | 7936 | 7526 | 9406 | 9963 | 8844 | 9551 | 4574 | 4574 | 7624 | 5907 | 7538 | 2583 | 2583 | 5776 | 94386 |
| 3 Total | 7936 | 7526 | 9406 | 9963 | 8844 | 9551 | 4574 | 4574 | 7624 | 5907 | 7538 | 2583 | 2583 | 5776 | 94386 |

Table 2.3.3
Table A-12: Bonneville Power Administration - Power Services: Cogeneration Resources
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Cogeneration Resources | | | | | | | | | | | | | | | |
| 1 Georgia-Pacific Paper | 5731 | 6292 | 7778 | 7856 | 6633 | 7508 | 3342 | 3342 | 6252 | 4544 | 5943 | 1888 | 2186 | 4621 | 73916 |
| Total Cogeneration Resources | | | | | | | | | | | | | | | |
| 2 Federal Entities | 5731 | 6292 | 7778 | 7856 | 6633 | 7508 | 3342 | 3342 | 6252 | 4544 | 5943 | 1888 | 2186 | 4621 | 73916 |
| 3 Total | 5731 | 6292 | 7778 | 7856 | 6633 | 7508 | 3342 | 3342 | 6252 | 4544 | 5943 | 1888 | 2186 | 4621 | 73916 |

Table 2.3.3 - continued
Table A-12: Bonneville Power Administration - Power Services: Cogeneration Resources
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Cogeneration Resources | | | | | | | | | | | | | | | |
| 1 Georgia-Pacific Paper | 5731 | 6605 | 7416 | 7856 | 6633 | 7508 | 3342 | 3342 | 6557 | 4317 | 5943 | 1888 | 2186 | 4621 | 73945 |
| Total Cogeneration Resources | | | | | | | | | | | | | | | |
| 2 Federal Entities | 5731 | 6605 | 7416 | 7856 | 6633 | 7508 | 3342 | 3342 | 6557 | 4317 | 5943 | 1888 | 2186 | 4621 | 73945 |
| 3 Total | 5731 | 6605 | 7416 | 7856 | 6633 | 7508 | 3342 | 3342 | 6557 | 4317 | 5943 | 1888 | 2186 | 4621 | 73945 |

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|-------------|---|----|
| 2.4 | Large Thermal Resources | 47 |
| Table 2.4.1 | Table A-13: BPA Large Thermal Resources - Energy | 48 |
| Table 2.4.2 | Table A-13: BPA Large Thermal Resources - HLH MWh | 50 |
| Table 2.4.3 | Table A-13: BPA Large Thermal Resources - LLH MWh..... | 52 |

Table 2.4.1
Table A-13: Bonneville Power Administration - Power Services: Large Thermal Resources
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|--------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Large Thermal Resources | | | | | | | | | | | | | | | |
| 1 Columbia Generating Station | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 |
| Total Large Thermal Resources | | | | | | | | | | | | | | | |
| 2 Federal Entities | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 |
| 3 Total | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 |

Table 2.4.1 - continued
Table A-13: Bonneville Power Administration - Power Services: Large Thermal Resources
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|--------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|----------|------------|-------------|-------------|-------------|------------|
| Large Thermal Resources | | | | | | | | | | | | | | | |
| 1 Columbia Generating Station | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 498 | 0 | 764 | 1030 | 1030 | 1030 | 878 |
| Total Large Thermal Resources | | | | | | | | | | | | | | | |
| 2 Federal Entities | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 498 | 0 | 764 | 1030 | 1030 | 1030 | 878 |
| 3 Total | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 498 | 0 | 764 | 1030 | 1030 | 1030 | 878 |

Table 2.4.2
Table A-13: Bonneville Power Administration - Power Services: Large Thermal Resources
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|--------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Large Thermal Resources | | | | | | | | | | | | | | | |
| 1 Columbia Generating | 444960 | 412000 | 412000 | 428480 | 395520 | 428480 | 214240 | 214240 | 428480 | 412000 | 428480 | 214240 | 214240 | 412000 | 5059360 |
| Total Large Thermal Resources | | | | | | | | | | | | | | | |
| 2 Federal Entities | 444960 | 412000 | 412000 | 428480 | 395520 | 428480 | 214240 | 214240 | 428480 | 412000 | 428480 | 214240 | 214240 | 412000 | 5059360 |
| 3 Total | 444960 | 412000 | 412000 | 428480 | 395520 | 428480 | 214240 | 214240 | 428480 | 412000 | 428480 | 214240 | 214240 | 412000 | 5059360 |

Table 2.4.2 - continued
Table A-13: Bonneville Power Administration - Power Services: Large Thermal Resources
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|--------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|----------------|
| Large Thermal Resources | | | | | | | | | | | | | | | |
| 1 Columbia Generating | 444960 | 395520 | 428480 | 428480 | 395520 | 428480 | 214240 | 214240 | 199200 | 0 | 317824 | 214240 | 214240 | 412000 | 4307424 |
| Total Large Thermal Resources | | | | | | | | | | | | | | | |
| 2 Federal Entities | 444960 | 395520 | 428480 | 428480 | 395520 | 428480 | 214240 | 214240 | 199200 | 0 | 317824 | 214240 | 214240 | 412000 | 4307424 |
| 3 Total | 444960 | 395520 | 428480 | 428480 | 395520 | 428480 | 214240 | 214240 | 199200 | 0 | 317824 | 214240 | 214240 | 412000 | 4307424 |

Table 2.4.3
Table A-13: Bonneville Power Administration - Power Services: Large Thermal Resources
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|--------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Large Thermal Resources | | | | | | | | | | | | | | | |
| 1 Columbia Generating | 321360 | 330630 | 354320 | 337840 | 296640 | 336810 | 156560 | 156560 | 337840 | 329600 | 337840 | 156560 | 181280 | 329600 | 3963440 |
| Total Large Thermal Resources | | | | | | | | | | | | | | | |
| 2 Federal Entities | 321360 | 330630 | 354320 | 337840 | 296640 | 336810 | 156560 | 156560 | 337840 | 329600 | 337840 | 156560 | 181280 | 329600 | 3963440 |
| 3 Total | 321360 | 330630 | 354320 | 337840 | 296640 | 336810 | 156560 | 156560 | 337840 | 329600 | 337840 | 156560 | 181280 | 329600 | 3963440 |

Table 2.4.3 - continued
Table A-13: Bonneville Power Administration - Power Services: Large Thermal Resources
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|--------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|----------------|
| Large Thermal Resources | | | | | | | | | | | | | | | |
| 1 Columbia Generating | 321360 | 347110 | 337840 | 337840 | 296640 | 336810 | 156560 | 156560 | 171312 | 0 | 250592 | 156560 | 181280 | 329600 | 3380064 |
| Total Large Thermal Resources | | | | | | | | | | | | | | | |
| 2 Federal Entities | 321360 | 347110 | 337840 | 337840 | 296640 | 336810 | 156560 | 156560 | 171312 | 0 | 250592 | 156560 | 181280 | 329600 | 3380064 |
| 3 Total | 321360 | 347110 | 337840 | 337840 | 296640 | 336810 | 156560 | 156560 | 171312 | 0 | 250592 | 156560 | 181280 | 329600 | 3380064 |

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|-------------|---|----|
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Table 2.5.1
Table A-11: Bonneville Power Administration - Power Services: Renewable Resources
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Renewable Resources | | | | | | | | | | | | | | | |
| 1 Ashland Solar Project | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 Condon | 10.9 | 9.77 | 13.8 | 7.23 | 7.13 | 13.0 | 10.7 | 8.60 | 8.69 | 10.3 | 6.85 | 5.92 | 11.5 | 9.57 | 9.65 |
| 3 Foote Creek 1 | 4.19 | 3.63 | 3.16 | 2.15 | 2.34 | 3.75 | 5.50 | 4.10 | 4.58 | 6.00 | 4.94 | 3.08 | 5.00 | 4.76 | 4.04 |
| 4 Foote Creek 2 | 0.49 | 0.43 | 0.37 | 0.25 | 0.28 | 0.44 | 0.65 | 0.48 | 0.54 | 0.71 | 0.58 | 0.36 | 0.59 | 0.56 | 0.48 |
| 5 Foote Creek 4 | 4.59 | 3.99 | 3.47 | 2.36 | 2.57 | 4.11 | 6.03 | 4.50 | 5.02 | 6.58 | 5.42 | 3.38 | 5.48 | 5.22 | 4.43 |
| 6 Fourmile Hill Geothermal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 Klondike 1 | 6.35 | 4.54 | 4.14 | 3.30 | 3.26 | 6.06 | 7.95 | 6.74 | 8.19 | 10.4 | 9.47 | 7.55 | 10.5 | 9.35 | 6.81 |
| 8 Klondike 3 | 13.2 | 9.48 | 8.65 | 6.89 | 6.81 | 12.7 | 16.6 | 14.1 | 17.1 | 21.7 | 19.8 | 15.8 | 21.9 | 19.5 | 14.2 |
| 9 Stateline | 22.7 | 14.5 | 17.5 | 12.0 | 7.61 | 29.1 | 26.8 | 18.5 | 24.0 | 35.3 | 14.5 | 15.8 | 34.2 | 22.3 | 20.7 |
| 10 White Bluffs Solar | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Renewable Resources | | | | | | | | | | | | | | | |
| 11 Federal Entities | 62.4 | 46.3 | 51.1 | 34.2 | 30.0 | 69.0 | 74.2 | 57.0 | 68.1 | 91.1 | 61.6 | 51.9 | 89.1 | 71.2 | 60.3 |
| 12 Total | 62.4 | 46.3 | 51.1 | 34.2 | 30.0 | 69.0 | 74.2 | 57.0 | 68.1 | 91.1 | 61.6 | 51.9 | 89.1 | 71.2 | 60.3 |

Table 2.5.1 - continued
Table A-11: Bonneville Power Administration - Power Services: Renewable Resources
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Renewable Resources | | | | | | | | | | | | | | | |
| 1 Ashland Solar Project | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 Condon | 10.9 | 9.77 | 13.8 | 7.23 | 7.13 | 13.0 | 10.7 | 8.60 | 8.69 | 10.3 | 6.85 | 5.92 | 11.5 | 9.57 | 9.65 |
| 3 Foote Creek 1 | 4.19 | 3.63 | 3.16 | 2.15 | 2.34 | 3.75 | 5.50 | 4.10 | 4.58 | 6.00 | 4.94 | 3.08 | 5.00 | 4.76 | 4.04 |
| 4 Foote Creek 2 | 0.49 | 0.43 | 0.37 | 0.25 | 0.28 | 0.44 | 0.65 | 0.48 | 0.54 | 0.71 | 0.58 | 0.36 | 0.59 | 0.56 | 0.48 |
| 5 Foote Creek 4 | 4.59 | 3.99 | 3.47 | 2.36 | 2.57 | 4.11 | 6.03 | 4.50 | 5.02 | 6.58 | 5.42 | 3.38 | 5.48 | 5.22 | 4.43 |
| 6 Fourmile Hill Geothermal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 Klondike 1 | 6.35 | 4.54 | 4.14 | 3.30 | 3.26 | 6.06 | 7.95 | 6.74 | 8.19 | 10.4 | 9.47 | 7.55 | 10.5 | 9.35 | 6.81 |
| 8 Klondike 3 | 13.2 | 9.48 | 8.65 | 6.89 | 6.81 | 12.7 | 16.6 | 14.1 | 17.1 | 21.7 | 19.8 | 15.8 | 21.9 | 19.5 | 14.2 |
| 9 Stateline | 22.7 | 14.5 | 17.5 | 12.0 | 7.61 | 29.1 | 26.8 | 18.5 | 24.0 | 35.3 | 14.5 | 15.8 | 34.2 | 22.3 | 20.7 |
| 10 White Bluffs Solar | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Renewable Resources | | | | | | | | | | | | | | | |
| 11 Federal Entities | 62.4 | 46.3 | 51.1 | 34.2 | 30.0 | 69.0 | 74.2 | 57.0 | 68.1 | 91.1 | 61.6 | 51.9 | 89.1 | 71.2 | 60.3 |
| 12 Total | 62.4 | 46.3 | 51.1 | 34.2 | 30.0 | 69.0 | 74.2 | 57.0 | 68.1 | 91.1 | 61.6 | 51.9 | 89.1 | 71.2 | 60.3 |

Table 2.5.2
Table A-11: Bonneville Power Administration - Power Services: Renewable Resources
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|----------------------------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|-------------|--------------|--------------|--------------|-------------|--------------|--------------|---------------|
| Renewable Resources | | | | | | | | | | | | | | | |
| 1 Ashland Solar Project | 1.22 | 0.58 | 0.43 | 0.55 | 0.77 | 1.17 | 0.74 | 0.74 | 1.72 | 1.78 | 2.00 | 0.94 | 0.94 | 1.58 | 15.1 |
| 2 Condon | 4383 | 3656 | 5284 | 3330 | 2415 | 5219 | 2835 | 1938 | 3414 | 4389 | 3195 | 1315 | 2559 | 4382 | 48314 |
| 3 Foote Creek 1 | 1786 | 1339 | 1239 | 1049 | 869 | 1689 | 1256 | 790 | 1639 | 2519 | 2150 | 483 | 1038 | 1963 | 19808 |
| 4 Foote Creek 2 | 209 | 158 | 145 | 122 | 104 | 198 | 148 | 92.4 | 193 | 298 | 252 | 56.4 | 123 | 231 | 2331 |
| 5 Foote Creek 4 | 1957 | 1470 | 1361 | 1150 | 953 | 1851 | 1376 | 867 | 1796 | 2762 | 2359 | 529 | 1138 | 2154 | 21723 |
| 6 Fourmile Hill Geothermal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 Klondike 1 | 2750 | 1774 | 1540 | 1476 | 1139 | 2670 | 2009 | 1024 | 2900 | 4029 | 4241 | 1321 | 2213 | 3851 | 32937 |
| 8 Klondike 3 | 5737 | 3705 | 3216 | 3082 | 2381 | 5574 | 4194 | 2137 | 6050 | 8404 | 8851 | 2757 | 4618 | 8033 | 68741 |
| 9 Stateline | 8965 | 4983 | 6163 | 5459 | 1816 | 11204 | 5616 | 2564 | 7075 | 12059 | 5685 | 2391 | 6574 | 9503 | 90057 |
| 10 White Bluffs Solar | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Renewable Resources | | | | | | | | | | | | | | | |
| 11 Federal Entities | 25788 | 17086 | 18949 | 15668 | 9678 | 28407 | 17434 | 9412 | 23071 | 34462 | 26736 | 8853 | 18265 | 30118 | 283927 |
| 12 Total | 25788 | 17086 | 18949 | 15668 | 9678 | 28407 | 17434 | 9412 | 23071 | 34462 | 26736 | 8853 | 18265 | 30118 | 283927 |

Table 2.5.2 - continued
Table A-11: Bonneville Power Administration - Power Services: Renewable Resources
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|----------------------------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|-------------|--------------|--------------|--------------|-------------|--------------|--------------|---------------|
| Renewable Resources | | | | | | | | | | | | | | | |
| 1 Ashland Solar Project | 1.22 | 0.55 | 0.44 | 0.55 | 0.77 | 1.17 | 0.74 | 0.74 | 1.65 | 1.85 | 2.00 | 0.94 | 0.94 | 1.58 | 15.1 |
| 2 Condon | 4383 | 3656 | 5284 | 3330 | 2415 | 5219 | 2835 | 1938 | 3414 | 4389 | 3195 | 1315 | 2559 | 4382 | 48314 |
| 3 Foote Creek 1 | 1786 | 1339 | 1239 | 1049 | 869 | 1689 | 1256 | 790 | 1639 | 2519 | 2150 | 483 | 1038 | 1963 | 19808 |
| 4 Foote Creek 2 | 209 | 158 | 145 | 122 | 104 | 198 | 148 | 92.4 | 193 | 298 | 252 | 56.4 | 123 | 231 | 2331 |
| 5 Foote Creek 4 | 1957 | 1470 | 1361 | 1150 | 953 | 1851 | 1376 | 867 | 1796 | 2762 | 2359 | 529 | 1138 | 2154 | 21723 |
| 6 Fourmile Hill Geothermal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 Klondike 1 | 2750 | 1774 | 1540 | 1476 | 1139 | 2670 | 2009 | 1024 | 2900 | 4029 | 4241 | 1321 | 2213 | 3851 | 32937 |
| 8 Klondike 3 | 5737 | 3705 | 3216 | 3082 | 2381 | 5574 | 4194 | 2137 | 6050 | 8404 | 8851 | 2757 | 4618 | 8033 | 68741 |
| 9 Stateline | 8965 | 4983 | 6163 | 5459 | 1816 | 11204 | 5616 | 2564 | 7075 | 12059 | 5685 | 2391 | 6574 | 9503 | 90057 |
| 10 White Bluffs Solar | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Renewable Resources | | | | | | | | | | | | | | | |
| 11 Federal Entities | 25788 | 17086 | 18949 | 15668 | 9678 | 28407 | 17434 | 9412 | 23071 | 34462 | 26736 | 8853 | 18265 | 30118 | 283927 |
| 12 Total | 25788 | 17086 | 18949 | 15668 | 9678 | 28407 | 17434 | 9412 | 23071 | 34462 | 26736 | 8853 | 18265 | 30118 | 283927 |

Table 2.5.3
Table A-11: Bonneville Power Administration - Power Services: Renewable Resources
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|----------------------------------|--------------|--------------|--------------|-------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|---------------|
| Renewable Resources | | | | | | | | | | | | | | | |
| 1 Ashland Solar Project | 0.88 | 0.46 | 0.37 | 0.43 | 0.58 | 0.92 | 0.54 | 0.54 | 1.35 | 1.42 | 1.58 | 0.68 | 0.79 | 1.26 | 11.8 |
| 2 Condon | 3689 | 3388 | 4976 | 2049 | 2377 | 4410 | 1006 | 1158 | 3052 | 3012 | 1901 | 816 | 1853 | 2508 | 36196 |
| 3 Foote Creek 1 | 1331 | 1281 | 1112 | 553 | 705 | 1098 | 725 | 686 | 1769 | 1802 | 1525 | 627 | 881 | 1463 | 15557 |
| 4 Foote Creek 2 | 156 | 152 | 130 | 64.2 | 84.3 | 129 | 85.6 | 80.4 | 209 | 213 | 179 | 73.2 | 104 | 172 | 1831 |
| 5 Foote Creek 4 | 1458 | 1407 | 1221 | 606 | 774 | 1203 | 795 | 753 | 1938 | 1976 | 1673 | 687 | 966 | 1605 | 17062 |
| 6 Fourmile Hill Geothermal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 Klondike 1 | 1975 | 1499 | 1540 | 980 | 1052 | 1833 | 853 | 1402 | 3193 | 3474 | 2804 | 1397 | 1811 | 2881 | 26693 |
| 8 Klondike 3 | 4121 | 3131 | 3216 | 2046 | 2198 | 3826 | 1780 | 2927 | 6660 | 7246 | 5852 | 2916 | 3779 | 6011 | 55708 |
| 9 Stateline | 7887 | 5464 | 6867 | 3446 | 3299 | 10384 | 4017 | 4113 | 10792 | 13382 | 5123 | 3302 | 6548 | 6522 | 91144 |
| 10 White Bluffs Solar | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Renewable Resources | | | | | | | | | | | | | | | |
| 11 Federal Entities | 20616 | 16322 | 19063 | 9745 | 10489 | 22884 | 9262 | 11120 | 27614 | 31106 | 19059 | 9820 | 15942 | 21164 | 244204 |
| 12 Total | 20616 | 16322 | 19063 | 9745 | 10489 | 22884 | 9262 | 11120 | 27614 | 31106 | 19059 | 9820 | 15942 | 21164 | 244204 |

Table 2.5.3 - continued
Table A-11: Bonneville Power Administration - Power Services: Renewable Resources
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|----------------------------------|--------------|--------------|--------------|-------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|---------------|
| Renewable Resources | | | | | | | | | | | | | | | |
| 1 Ashland Solar Project | 0.88 | 0.48 | 0.35 | 0.43 | 0.58 | 0.92 | 0.54 | 0.54 | 1.42 | 1.35 | 1.58 | 0.68 | 0.79 | 1.26 | 11.8 |
| 2 Condon | 3689 | 3388 | 4976 | 2049 | 2377 | 4410 | 1006 | 1158 | 3052 | 3012 | 1901 | 816 | 1853 | 2508 | 36196 |
| 3 Foote Creek 1 | 1331 | 1281 | 1112 | 553 | 705 | 1098 | 725 | 686 | 1769 | 1802 | 1525 | 627 | 881 | 1463 | 15557 |
| 4 Foote Creek 2 | 156 | 152 | 130 | 64.2 | 84.3 | 129 | 85.6 | 80.4 | 209 | 213 | 179 | 73.2 | 104 | 172 | 1831 |
| 5 Foote Creek 4 | 1458 | 1407 | 1221 | 606 | 774 | 1203 | 795 | 753 | 1938 | 1976 | 1673 | 687 | 966 | 1605 | 17062 |
| 6 Fourmile Hill Geothermal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 Klondike 1 | 1975 | 1499 | 1540 | 980 | 1052 | 1833 | 853 | 1402 | 3193 | 3474 | 2804 | 1397 | 1811 | 2881 | 26693 |
| 8 Klondike 3 | 4121 | 3131 | 3216 | 2046 | 2198 | 3826 | 1780 | 2927 | 6660 | 7246 | 5852 | 2916 | 3779 | 6011 | 55708 |
| 9 Stateline | 7887 | 5464 | 6867 | 3446 | 3299 | 10384 | 4017 | 4113 | 10792 | 13382 | 5123 | 3302 | 6548 | 6522 | 91144 |
| 10 White Bluffs Solar | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Renewable Resources | | | | | | | | | | | | | | | |
| 11 Federal Entities | 20616 | 16322 | 19063 | 9745 | 10489 | 22884 | 9262 | 11120 | 27614 | 31106 | 19059 | 9820 | 15942 | 21164 | 244204 |
| 12 Total | 20616 | 16322 | 19063 | 9745 | 10489 | 22884 | 9262 | 11120 | 27614 | 31106 | 19059 | 9820 | 15942 | 21164 | 244204 |

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|-------------|--|----|
| 2.6 | Small Hydro Resources..... | 63 |
| Table 2.6.1 | Table A-9: BPA Small Hydro - Energy | 64 |
| Table 2.6.2 | Table A-9: BPA Small Hydro - HLH MWh..... | 66 |
| Table 2.6.3 | Table A-9: BPA Small Hydro - LLH MWh | 68 |

Table 2.6.1
Table A-9: Bonneville Power Administration - Power Services: Small Hydro
 Fiscal Year 2014
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Small Hydro | | | | | | | | | | | | | | | |
| 1 Dworshak-Clearwater Hatcherv | 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 Rockv Brook | 0.04 | 0.21 | 0.56 | 0.58 | 0.42 | 0.47 | 0.46 | 0.46 | 0.20 | 0.09 | 0 | 0 | 0 | 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 2.6.1 - continued
Table A-9: Bonneville Power Administration - Power Services: Small Hydro
 Fiscal Year 2015
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Small Hydro | | | | | | | | | | | | | | | |
| 1 Dworshak-Clearwater Hatcherv | 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 Rockv Brook | 0.04 | 0.21 | 0.56 | 0.58 | 0.42 | 0.47 | 0.46 | 0.46 | 0.20 | 0.09 | 0 | 0 | 0 | 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 2.6.2
Table A-9: Bonneville Power Administration - Power Services: Small Hydro
 Fiscal Year 2014
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|------------|-------------|-------------|-------------|------------|------------|-------------|--------------|
| Small Hydro | | | | | | | | | | | | | | | |
| 1 Dworshak-Clearwater Hatcherv | 1136 | 1052 | 1052 | 1094 | 1010 | 1094 | 547 | 547 | 1094 | 1052 | 1094 | 547 | 547 | 1052 | 12919 |
| 2 Rockv 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 | 1155 | 1140 | 1291 | 1341 | 1172 | 1293 | 642 | 642 | 1179 | 1088 | 1095 | 548 | 548 | 1052 | 14187 |
| 4 Total Small Hydro | 1155 | 1140 | 1291 | 1341 | 1172 | 1293 | 642 | 642 | 1179 | 1088 | 1095 | 548 | 548 | 1052 | 14187 |

Table 2.6.2 - continued
Table A-9: Bonneville Power Administration - Power Services: Small Hydro
 Fiscal Year 2015
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|------------|-------------|-------------|-------------|------------|------------|-------------|--------------|
| Small Hydro | | | | | | | | | | | | | | | |
| 1 Dworshak-Clearwater Hatcherv | 1136 | 1010 | 1094 | 1094 | 1010 | 1094 | 547 | 547 | 1052 | 1094 | 1094 | 547 | 547 | 1052 | 12919 |
| 2 Rockv 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 | 1155 | 1098 | 1333 | 1341 | 1172 | 1293 | 642 | 642 | 1137 | 1130 | 1095 | 548 | 548 | 1052 | 14187 |
| 4 Total Small Hydro | 1155 | 1098 | 1333 | 1341 | 1172 | 1293 | 642 | 642 | 1137 | 1130 | 1095 | 548 | 548 | 1052 | 14187 |

Table 2.6.3
Table A-9: Bonneville Power Administration - Power Services: Small Hydro
 Fiscal Year 2014
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|--------------------------------|------------|------------|-------------|-------------|------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|
| Small Hydro | | | | | | | | | | | | | | | |
| 1 Dworshak-Clearwater Hatcherv | 821 | 844 | 905 | 863 | 757 | 860 | 400 | 400 | 863 | 842 | 863 | 400 | 463 | 842 | 10120 |
| 2 Rockv Brook | 14.0 | 61.0 | 175 | 181 | 121 | 149 | 70.0 | 70.0 | 67.0 | 26.0 | 1.00 | 0 | 0 | 0 | 935 |
| Total Small Hydro | | | | | | | | | | | | | | | |
| 3 Federal Entities | 835 | 905 | 1080 | 1044 | 878 | 1009 | 470 | 470 | 930 | 868 | 864 | 400 | 463 | 842 | 11055 |
| 4 Total Small Hydro | 835 | 905 | 1080 | 1044 | 878 | 1009 | 470 | 470 | 930 | 868 | 864 | 400 | 463 | 842 | 11055 |

Table 2.6.3 - continued
Table A-9: Bonneville Power Administration - Power Services: Small Hydro
 Fiscal Year 2015
 1937 Water Year
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|--------------------------------|------------|------------|-------------|-------------|------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|
| Small Hydro | | | | | | | | | | | | | | | |
| 1 Dworshak-Clearwater Hatcherv | 821 | 886 | 863 | 863 | 757 | 860 | 400 | 400 | 905 | 800 | 863 | 400 | 463 | 842 | 10120 |
| 2 Rockv Brook | 14.0 | 61.0 | 175 | 181 | 121 | 149 | 70.0 | 70.0 | 67.0 | 26.0 | 1.00 | 0 | 0 | 0 | 935 |
| Total Small Hydro | | | | | | | | | | | | | | | |
| 3 Federal Entities | 835 | 947 | 1038 | 1044 | 878 | 1009 | 470 | 470 | 972 | 826 | 864 | 400 | 463 | 842 | 11055 |
| 4 Total Small Hydro | 835 | 947 | 1038 | 1044 | 878 | 1009 | 470 | 470 | 972 | 826 | 864 | 400 | 463 | 842 | 11055 |

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| 2.7 | Imports | 71 |
| Table 2.7.1 | Table A-3: BPA Imports - Energy | 72 |
| Table 2.7.2 | Table A-3: BPA Imports - HLH MWh | 74 |
| Table 2.7.3 | Table A-3: BPA Imports - LLH MWh | 76 |

Table 2.7.1
Table A-3: Bonneville Power Administration - Power Services: Imports
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Canada | | | | | | | | | | | | | | | |
| 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 BCHP to BPA-P Trty LCARtn | 0 | 0 | 232 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 116 | 116 | 0 | 29.6 |
| 3 Total Imports From CAN | 1.00 | 1.00 | 233 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 117 | 117 | 1.00 | 30.6 |
| Pacific Southwest | | | | | | | | | | | | | | | |
| 4 PASA to BPA-P CNX EER | 3.45 | 3.46 | 3.58 | 3.45 | 3.50 | 1.68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.47 | 1.87 |
| 5 PASA to BPA-P CNX Repl | 0.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.44 | 4.32 | 4.55 | 4.38 | 1.13 |
| 6 PASA to BPA-P SNX Ret | 4.59 | 4.61 | 4.77 | 4.59 | 4.66 | 2.24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.61 | 2.49 |
| 7 RVSD to BPA-P CNX EER | 0 | 16.3 | 16.2 | 15.6 | 16.1 | 16.8 | 7.87 | 7.87 | 0 | 0 | 0 | 0 | 0 | 0 | 7.34 |
| 8 RVSD to BPA-P CNX Repl | 11.1 | 3.12 | 2.54 | 2.78 | 2.68 | 2.54 | 2.75 | 2.75 | 0.12 | 0 | 10.6 | 10.5 | 10.8 | 10.5 | 4.98 |
| 9 RVSD to BPA-P SNX Ret | 0 | 9.43 | 9.34 | 9.00 | 9.29 | 9.69 | 4.55 | 4.55 | 0 | 0 | 0 | 0 | 0 | 0 | 4.24 |
| 10 Total Imports From PSW | 19.4 | 36.9 | 36.4 | 35.4 | 36.2 | 32.9 | 15.2 | 15.2 | 0.12 | 0 | 15.1 | 14.8 | 15.4 | 23.0 | 22.1 |
| Total Imports | | | | | | | | | | | | | | | |
| 11 Federal Entities | 20.4 | 37.9 | 269 | 36.4 | 37.2 | 33.9 | 16.2 | 16.2 | 1.12 | 1.00 | 16.1 | 132 | 133 | 24.0 | 52.7 |
| 12 Total Imports | 20.4 | 37.9 | 269 | 36.4 | 37.2 | 33.9 | 16.2 | 16.2 | 1.12 | 1.00 | 16.1 | 132 | 133 | 24.0 | 52.7 |

Table 2.7.1 - continued
Table A-3: Bonneville Power Administration - Power Services: Imports
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Canada | | | | | | | | | | | | | | | |
| 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 BCHP to BPA-P Trty LCARtn | 0 | 0 | 232 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 116 | 116 | 0 | 29.6 |
| 3 Total Imports From CAN | 1.00 | 1.00 | 233 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 117 | 117 | 1.00 | 30.6 |
| Pacific Southwest | | | | | | | | | | | | | | | |
| 4 PASA to BPA-P CNX EER | 3.45 | 3.60 | 3.45 | 3.45 | 3.50 | 1.81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.60 |
| 5 PASA to BPA-P CNX Repl | 0.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.02 |
| 6 PASA to BPA-P SNX Ret | 4.59 | 4.79 | 4.59 | 4.59 | 4.66 | 2.41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.13 |
| 7 RVSD to BPA-P CNX EER | 0 | 16.9 | 15.6 | 16.2 | 16.1 | 16.2 | 7.87 | 7.87 | 0 | 0 | 0 | 0 | 0 | 0 | 7.34 |
| 8 RVSD to BPA-P CNX Repl | 11.1 | 3.00 | 2.66 | 2.78 | 2.68 | 2.54 | 2.75 | 2.75 | 0.12 | 0 | 10.6 | 9.98 | 10.3 | 11.0 | 4.98 |
| 9 RVSD to BPA-P SNX Ret | 0 | 9.78 | 9.00 | 9.34 | 9.29 | 9.36 | 4.55 | 4.55 | 0 | 0 | 0 | 0 | 0 | 0 | 4.24 |
| 10 Total Imports From PSW | 19.4 | 38.1 | 35.3 | 36.3 | 36.2 | 32.3 | 15.2 | 15.2 | 0.12 | 0 | 10.6 | 9.98 | 10.3 | 11.0 | 20.3 |
| Total Imports | | | | | | | | | | | | | | | |
| 11 Federal Entities | 20.4 | 39.1 | 268 | 37.3 | 37.2 | 33.3 | 16.2 | 16.2 | 1.12 | 1.00 | 11.6 | 127 | 128 | 12.0 | 50.9 |
| 12 Total Imports | 20.4 | 39.1 | 268 | 37.3 | 37.2 | 33.3 | 16.2 | 16.2 | 1.12 | 1.00 | 11.6 | 127 | 128 | 12.0 | 50.9 |

Table 2.7.2
Table A-3: Bonneville Power Administration - Power Services: Imports
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|------------------------------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|--------------|--------------|-------------|---------------|
| Canada | | | | | | | | | | | | | | | |
| 1 BCHP to BPA-P Trty LCALgcyRtn | 432 | 400 | 400 | 416 | 384 | 416 | 208 | 208 | 416 | 400 | 416 | 208 | 208 | 400 | 4912 |
| 2 BCHP to BPA-P Trty LCARtn | 0 | 0 | 92800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24232 | 24232 | 0 | 141264 |
| 3 Total Imports From CAN | 432 | 400 | 93200 | 416 | 384 | 416 | 208 | 208 | 416 | 400 | 416 | 24440 | 24440 | 400 | 146176 |
| Pacific Southwest | | | | | | | | | | | | | | | |
| 4 PASA to BPA-P CNX EER | 378 | 350 | 350 | 364 | 336 | 182 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 | 2313 |
| 5 PASA to BPA-P CNX Repl | 29.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 630 | 330 | 330 | 630 | 1950 |
| 6 PASA to BPA-P SNX Ret | 504 | 466 | 466 | 485 | 448 | 243 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 466 | 3078 |
| 7 RVSD to BPA-P CNX EER | 0 | 2906 | 2470 | 2499 | 2441 | 2935 | 625 | 625 | 0 | 0 | 0 | 0 | 0 | 0 | 14501 |
| 8 RVSD to BPA-P CNX Repl | 2480 | 490 | 400 | 420 | 400 | 460 | 210 | 210 | 20.0 | 0 | 2320 | 1280 | 1280 | 2320 | 12291 |
| 9 RVSD to BPA-P SNX Ret | 0 | 1679 | 1427 | 1444 | 1410 | 1696 | 361 | 361 | 0 | 0 | 0 | 0 | 0 | 0 | 8379 |
| 10 Total Imports From PSW | 3392 | 5892 | 5114 | 5213 | 5036 | 5515 | 1196 | 1196 | 20.0 | 0 | 2950 | 1610 | 1610 | 3767 | 42511 |
| Total Imports | | | | | | | | | | | | | | | |
| 11 Federal Entities | 3824 | 6292 | 98314 | 5629 | 5420 | 5931 | 1404 | 1404 | 436 | 400 | 3366 | 26050 | 26050 | 4167 | 188687 |
| 12 Total Imports | 3824 | 6292 | 98314 | 5629 | 5420 | 5931 | 1404 | 1404 | 436 | 400 | 3366 | 26050 | 26050 | 4167 | 188687 |

Table 2.7.2 - continued
Table A-3: Bonneville Power Administration - Power Services: Imports
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|------------------------------------|-------------|-------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|--------------|--------------|-------------|---------------|
| Canada | | | | | | | | | | | | | | | |
| 1 BCHP to BPA-P Trty LCALgcyRtn | 432 | 384 | 416 | 416 | 384 | 416 | 208 | 208 | 400 | 416 | 416 | 208 | 208 | 400 | 4912 |
| 2 BCHP to BPA-P Trty LCARtn | 0 | 0 | 96512 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24232 | 24232 | 0 | 144976 |
| 3 Total Imports From CAN | 432 | 384 | 96928 | 416 | 384 | 416 | 208 | 208 | 400 | 416 | 416 | 24440 | 24440 | 400 | 149888 |
| Pacific Southwest | | | | | | | | | | | | | | | |
| 4 PASA to BPA-P CNX EER | 378 | 336 | 364 | 364 | 336 | 168 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1948 |
| 5 PASA to BPA-P CNX Repl | 29.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29.8 |
| 6 PASA to BPA-P SNX Ret | 504 | 448 | 485 | 485 | 448 | 224 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2593 |
| 7 RVSD to BPA-P CNX EER | 0 | 2877 | 2499 | 2935 | 2441 | 2499 | 625 | 625 | 0 | 0 | 0 | 0 | 0 | 0 | 14501 |
| 8 RVSD to BPA-P CNX Repl | 2480 | 630 | 410 | 470 | 400 | 410 | 210 | 210 | 20.0 | 0 | 2160 | 1240 | 1240 | 2400 | 12281 |
| 9 RVSD to BPA-P SNX Ret | 0 | 1662 | 1444 | 1696 | 1410 | 1444 | 361 | 361 | 0 | 0 | 0 | 0 | 0 | 0 | 8378 |
| 10 Total Imports From PSW | 3392 | 5954 | 5203 | 5950 | 5036 | 4745 | 1196 | 1196 | 20.0 | 0 | 2160 | 1240 | 1240 | 2400 | 39732 |
| Total Imports | | | | | | | | | | | | | | | |
| 11 Federal Entities | 3824 | 6338 | 102131 | 6366 | 5420 | 5161 | 1404 | 1404 | 420 | 416 | 2576 | 25680 | 25680 | 2800 | 189620 |
| 12 Total Imports | 3824 | 6338 | 102131 | 6366 | 5420 | 5161 | 1404 | 1404 | 420 | 416 | 2576 | 25680 | 25680 | 2800 | 189620 |

Table 2.7.3
Table A-3: Bonneville Power Administration - Power Services: Imports
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|------------------------------------|--------------|--------------|---------------|--------------|--------------|--------------|-------------|-------------|-------------|------------|-------------|--------------|--------------|--------------|---------------|
| Canada | | | | | | | | | | | | | | | |
| 1 BCHP to BPA-P Trty LCALgcyRtn | 312 | 321 | 344 | 328 | 288 | 327 | 152 | 152 | 328 | 320 | 328 | 152 | 176 | 320 | 3848 |
| 2 BCHP to BPA-P Trty LCARtn | 0 | 0 | 79808 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17669 | 20459 | 0 | 117936 |
| 3 Total Imports From CAN | 312 | 321 | 80152 | 328 | 288 | 327 | 152 | 152 | 328 | 320 | 328 | 17821 | 20635 | 320 | 121784 |
| Pacific Southwest | | | | | | | | | | | | | | | |
| 4 PASA to BPA-P CNX EER | 2187 | 2145 | 2313 | 2201 | 2019 | 1065 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2145 | 14076 |
| 5 PASA to BPA-P CNX Repl | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2670 | 1223 | 1417 | 2520 | 7950 |
| 6 PASA to BPA-P SNX Ret | 2911 | 2855 | 3079 | 2930 | 2687 | 1418 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2855 | 18735 |
| 7 RVSD to BPA-P CNX EER | 0 | 8863 | 9561 | 9096 | 8369 | 9532 | 2209 | 2209 | 0 | 0 | 0 | 0 | 0 | 0 | 49838 |
| 8 RVSD to BPA-P CNX Repl | 5800 | 1760 | 1490 | 1650 | 1400 | 1430 | 780 | 780 | 69.9 | 0 | 5600 | 2484 | 2876 | 5240 | 31360 |
| 9 RVSD to BPA-P SNX Ret | 0 | 5121 | 5524 | 5255 | 4836 | 5507 | 1276 | 1276 | 0 | 0 | 0 | 0 | 0 | 0 | 28795 |
| 10 Total Imports From PSW | 11018 | 20744 | 21967 | 21132 | 19311 | 18952 | 4265 | 4265 | 69.9 | 0 | 8270 | 3707 | 4293 | 12760 | 150753 |
| Total Imports | | | | | | | | | | | | | | | |
| 11 Federal Entities | 11330 | 21065 | 102119 | 21460 | 19599 | 19279 | 4417 | 4417 | 398 | 320 | 8598 | 21528 | 24928 | 13080 | 272537 |
| 12 Total Imports | 11330 | 21065 | 102119 | 21460 | 19599 | 19279 | 4417 | 4417 | 398 | 320 | 8598 | 21528 | 24928 | 13080 | 272537 |

Table 2.7.3 - continued
Table A-3: Bonneville Power Administration - Power Services: Imports
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|------------|-------------|--------------|--------------|-------------|---------------|
| Canada | | | | | | | | | | | | | | | |
| 1 BCHP to BPA-P Trty LCALgcyRtn | 312 | 337 | 328 | 328 | 288 | 327 | 152 | 152 | 344 | 304 | 328 | 152 | 176 | 320 | 3848 |
| 2 BCHP to BPA-P Trty LCARtn | 0 | 0 | 76096 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17669 | 20459 | 0 | 114224 |
| 3 Total Imports From CAN | 312 | 337 | 76424 | 328 | 288 | 327 | 152 | 152 | 344 | 304 | 328 | 17821 | 20635 | 320 | 118072 |
| Pacific Southwest | | | | | | | | | | | | | | | |
| 4 PASA to BPA-P CNX EER | 2187 | 2257 | 2201 | 2201 | 2019 | 1178 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12043 |
| 5 PASA to BPA-P CNX Repl | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 |
| 6 PASA to BPA-P SNX Ret | 2911 | 3004 | 2930 | 2930 | 2687 | 1567 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16029 |
| 7 RVSD to BPA-P CNX EER | 0 | 9328 | 9096 | 9096 | 8369 | 9532 | 2209 | 2209 | 0 | 0 | 0 | 0 | 0 | 0 | 49838 |
| 8 RVSD to BPA-P CNX Repl | 5800 | 1530 | 1570 | 1600 | 1400 | 1480 | 780 | 780 | 69.8 | 0 | 5760 | 2354 | 2726 | 5520 | 31370 |
| 9 RVSD to BPA-P SNX Ret | 0 | 5390 | 5255 | 5255 | 4836 | 5507 | 1276 | 1276 | 0 | 0 | 0 | 0 | 0 | 0 | 28795 |
| 10 Total Imports From PSW | 11018 | 21509 | 21052 | 21082 | 19311 | 19264 | 4265 | 4265 | 69.8 | 0 | 5760 | 2354 | 2726 | 5520 | 138195 |
| Total Imports | | | | | | | | | | | | | | | |
| 11 Federal Entities | 11330 | 21846 | 97476 | 21410 | 19599 | 19591 | 4417 | 4417 | 414 | 304 | 6088 | 20175 | 23361 | 5840 | 256267 |
| 12 Total Imports | 11330 | 21846 | 97476 | 21410 | 19599 | 19591 | 4417 | 4417 | 414 | 304 | 6088 | 20175 | 23361 | 5840 | 256267 |

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|-------------|--|----|
| 2.8 | Non-Federal CER Deliveries to BPA | 79 |
| Table 2.8.1 | Table A-15: Non-Federal CER Deliveries - Energy | 80 |
| Table 2.8.2 | Table A-15: Non-Federal CER Deliveries - HLH MWh | 82 |
| Table 2.8.3 | Table A-15: Non-Federal CER Deliveries - LLH MWh | 84 |

Table 2.8.1
Table A-15: Non-Federal CER Deliveries to BPA
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| 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 | 18.0 | 17.9 | 17.3 | 18.0 | 17.7 | 17.4 | 17.9 | 17.9 | 18.0 | 17.2 | 18.0 | 17.9 | 16.8 | 17.9 | 17.7 |
| 2 CHPD to BPA CEAEA for Rocky Reach | 38.3 | 38.1 | 36.9 | 38.3 | 37.7 | 37.0 | 37.6 | 37.6 | 37.7 | 36.1 | 37.7 | 37.6 | 35.2 | 37.6 | 37.4 |
| 3 DOPD to BPA CEAEA for Wells | 24.4 | 24.2 | 23.5 | 24.4 | 24.0 | 23.5 | 24.3 | 24.3 | 24.4 | 23.3 | 24.4 | 24.3 | 22.8 | 24.3 | 24.0 |
| 4 GCPD to BPA CEAEA for Priest Rapids | 29.6 | 29.4 | 28.5 | 29.6 | 29.1 | 28.6 | 29.5 | 29.5 | 29.6 | 28.3 | 29.6 | 29.5 | 27.6 | 29.5 | 29.2 |
| 5 GCPD to BPA CEAEA for Wanpum | 28.5 | 28.3 | 27.4 | 28.5 | 28.0 | 27.4 | 28.3 | 28.3 | 28.5 | 27.2 | 28.5 | 28.3 | 26.5 | 28.3 | 28.0 |
| 6 Total Imports From PNW | 139 | 138 | 134 | 139 | 137 | 134 | 138 | 138 | 138 | 132 | 138 | 138 | 129 | 138 | 136 |
| Total Imports | | | | | | | | | | | | | | | |
| 7 Federal Entities | 139 | 138 | 134 | 139 | 137 | 134 | 138 | 138 | 138 | 132 | 138 | 138 | 129 | 138 | 136 |
| 8 Total Imports | 139 | 138 | 134 | 139 | 137 | 134 | 138 | 138 | 138 | 132 | 138 | 138 | 129 | 138 | 136 |

Table 2.8.1 - continued
Table A-15: Non-Federal CER Deliveries to BPA
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| 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 | 18.0 | 17.2 | 18.0 | 18.0 | 17.7 | 17.4 | 17.9 | 17.9 | 17.3 | 17.9 | 18.0 | 17.9 | 16.8 | 17.9 | 17.7 |
| 2 CHPD to BPA CEAEA for Rocky Reach | 37.7 | 36.1 | 37.7 | 37.7 | 37.1 | 36.4 | 37.6 | 37.6 | 36.3 | 37.6 | 37.7 | 37.6 | 35.2 | 37.6 | 37.2 |
| 3 DOPD to BPA CEAEA for Wells | 24.4 | 23.3 | 24.4 | 24.4 | 24.0 | 23.5 | 23.7 | 23.7 | 22.9 | 23.7 | 23.8 | 23.7 | 22.2 | 23.7 | 23.7 |
| 4 GCPD to BPA CEAEA for Priest Rapids | 29.6 | 28.3 | 29.6 | 29.6 | 29.1 | 28.6 | 29.5 | 29.5 | 28.5 | 29.5 | 29.6 | 29.5 | 27.6 | 29.5 | 29.2 |
| 5 GCPD to BPA CEAEA for Wanpum | 28.5 | 27.2 | 28.5 | 28.5 | 28.0 | 27.4 | 28.3 | 28.3 | 27.4 | 28.3 | 28.5 | 28.3 | 26.5 | 28.3 | 28.0 |
| 6 Total Imports From PNW | 138 | 132 | 138 | 138 | 136 | 133 | 137 | 137 | 133 | 137 | 138 | 137 | 128 | 137 | 136 |
| Total Imports | | | | | | | | | | | | | | | |
| 7 Federal Entities | 138 | 132 | 138 | 138 | 136 | 133 | 137 | 137 | 133 | 137 | 138 | 137 | 128 | 137 | 136 |
| 8 Total Imports | 138 | 132 | 138 | 138 | 136 | 133 | 137 | 137 | 133 | 137 | 138 | 137 | 128 | 137 | 136 |

Table 2.8.2
Table A-15: Non-Federal CER Deliveries to BPA
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| 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 | 13392 | 12400 | 12400 | 12896 | 11904 | 12896 | 6448 | 6448 | 12896 | 12400 | 12896 | 6448 | 6448 | 12400 | 152272 |
| 2 CHPD to BPA CEAEA for Rocky Reach | 28512 | 26400 | 26400 | 27456 | 25344 | 27456 | 13520 | 13520 | 27040 | 26000 | 27040 | 13520 | 13520 | 26000 | 321728 |
| 3 DOPD to BPA CEAEA for Wells | 18144 | 16800 | 16800 | 17472 | 16128 | 17472 | 8736 | 8736 | 17472 | 16800 | 17472 | 8736 | 8736 | 16800 | 206304 |
| 4 GCPD to BPA CEAEA for Priest Rapids | 22032 | 20400 | 20400 | 21216 | 19584 | 21216 | 10608 | 10608 | 21216 | 20400 | 21216 | 10608 | 10608 | 20400 | 250512 |
| 5 GCPD to BPA CEAEA for Wanpum | 21168 | 19600 | 19600 | 20384 | 18816 | 20384 | 10192 | 10192 | 20384 | 19600 | 20384 | 10192 | 10192 | 19600 | 240688 |
| 6 Total Imports From PNW | 103248 | 95600 | 95600 | 99424 | 91776 | 99424 | 49504 | 49504 | 99008 | 95200 | 99008 | 49504 | 49504 | 95200 | 1171504 |
| Total Imports | | | | | | | | | | | | | | | |
| 7 Federal Entities | 103248 | 95600 | 95600 | 99424 | 91776 | 99424 | 49504 | 49504 | 99008 | 95200 | 99008 | 49504 | 49504 | 95200 | 1171504 |
| 8 Total Imports | 103248 | 95600 | 95600 | 99424 | 91776 | 99424 | 49504 | 49504 | 99008 | 95200 | 99008 | 49504 | 49504 | 95200 | 1171504 |

Table 2.8.2 - continued
Table A-15: Non-Federal CER Deliveries to BPA
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| 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 | 13392 | 11904 | 12896 | 12896 | 11904 | 12896 | 6448 | 6448 | 12400 | 12896 | 12896 | 6448 | 6448 | 12400 | 152272 |
| 2 CHPD to BPA CEAEA for Rocky Reach | 28080 | 24960 | 27040 | 27040 | 24960 | 27040 | 13520 | 13520 | 26000 | 27040 | 27040 | 13520 | 13520 | 26000 | 319280 |
| 3 DOPD to BPA CEAEA for Wells | 18144 | 16128 | 17472 | 17472 | 16128 | 17472 | 8528 | 8528 | 16400 | 17056 | 17056 | 8528 | 8528 | 16400 | 203840 |
| 4 GCPD to BPA CEAEA for Priest Rapids | 22032 | 19584 | 21216 | 21216 | 19584 | 21216 | 10608 | 10608 | 20400 | 21216 | 21216 | 10608 | 10608 | 20400 | 250512 |
| 5 GCPD to BPA CEAEA for Wanpum | 21168 | 18816 | 20384 | 20384 | 18816 | 20384 | 10192 | 10192 | 19600 | 20384 | 20384 | 10192 | 10192 | 19600 | 240688 |
| 6 Total Imports From PNW | 102816 | 91392 | 99008 | 99008 | 91392 | 99008 | 49296 | 49296 | 94800 | 98592 | 98592 | 49296 | 49296 | 94800 | 1166592 |
| Total Imports | | | | | | | | | | | | | | | |
| 7 Federal Entities | 102816 | 91392 | 99008 | 99008 | 91392 | 99008 | 49296 | 49296 | 94800 | 98592 | 98592 | 49296 | 49296 | 94800 | 1166592 |
| 8 Total Imports | 102816 | 91392 | 99008 | 99008 | 91392 | 99008 | 49296 | 49296 | 94800 | 98592 | 98592 | 49296 | 49296 | 94800 | 1166592 |

Table 2.8.3
Table A-15: Non-Federal CER Deliveries to BPA
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| 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 | 0 | 496 | 496 | 496 | 0 | 0 | 0 | 0 | 496 | 0 | 496 | 0 | 0 | 496 | 2976 |
| 2 CHPD to BPA CEAEA for Rocky Reach | 0 | 1056 | 1056 | 1056 | 0 | 0 | 0 | 0 | 1040 | 0 | 1040 | 0 | 0 | 1040 | 6289 |
| 3 DOPD to BPA CEAEA for Wells | 0 | 672 | 672 | 672 | 0 | 0 | 0 | 0 | 672 | 0 | 672 | 0 | 0 | 672 | 4032 |
| 4 GCPD to BPA CEAEA for Priest Rapids | 0 | 816 | 816 | 816 | 0 | 0 | 0 | 0 | 816 | 0 | 816 | 0 | 0 | 816 | 4896 |
| 5 GCPD to BPA CEAEA for Wanpum | 0 | 784 | 784 | 784 | 0 | 0 | 0 | 0 | 784 | 0 | 784 | 0 | 0 | 784 | 4704 |
| 6 Total Imports From PNW | 0 | 3824 | 3824 | 3824 | 0 | 0 | 0 | 0 | 3808 | 0 | 3808 | 0 | 0 | 3808 | 22896 |
| Total Imports | | | | | | | | | | | | | | | |
| 7 Federal Entities | 0 | 3824 | 3824 | 3824 | 0 | 0 | 0 | 0 | 3808 | 0 | 3808 | 0 | 0 | 3808 | 22896 |
| 8 Total Imports | 0 | 3824 | 3824 | 3824 | 0 | 0 | 0 | 0 | 3808 | 0 | 3808 | 0 | 0 | 3808 | 22896 |

Table 2.8.3 - continued
Table A-15: Non-Federal CER Deliveries to BPA
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| 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 | 0 | 496 | 496 | 496 | 0 | 0 | 0 | 0 | 496 | 0 | 496 | 0 | 0 | 496 | 2976 |
| 2 CHPD to BPA CEAEA for Rocky Reach | 0 | 1040 | 1040 | 1040 | 0 | 0 | 0 | 0 | 1040 | 0 | 1040 | 0 | 0 | 1040 | 6240 |
| 3 DOPD to BPA CEAEA for Wells | 0 | 672 | 672 | 672 | 0 | 0 | 0 | 0 | 656 | 0 | 656 | 0 | 0 | 656 | 3984 |
| 4 GCPD to BPA CEAEA for Priest Rapids | 0 | 816 | 816 | 816 | 0 | 0 | 0 | 0 | 816 | 0 | 816 | 0 | 0 | 816 | 4896 |
| 5 GCPD to BPA CEAEA for Wanpum | 0 | 784 | 784 | 784 | 0 | 0 | 0 | 0 | 784 | 0 | 784 | 0 | 0 | 784 | 4704 |
| 6 Total Imports From PNW | 0 | 3808 | 3808 | 3808 | 0 | 0 | 0 | 0 | 3792 | 0 | 3792 | 0 | 0 | 3792 | 22800 |
| Total Imports | | | | | | | | | | | | | | | |
| 7 Federal Entities | 0 | 3808 | 3808 | 3808 | 0 | 0 | 0 | 0 | 3792 | 0 | 3792 | 0 | 0 | 3792 | 22800 |
| 8 Total Imports | 0 | 3808 | 3808 | 3808 | 0 | 0 | 0 | 0 | 3792 | 0 | 3792 | 0 | 0 | 3792 | 22800 |

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|-------------|---|----|
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Table 2.9.1
Table A-4: Bonneville Power Administration - Power Services: Intra-Regional Transfers
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|--|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|
| Intra-Regional Transfers | | | | | | | | | | | | | | | |
| 1 BPA-P to AVWP Setl WNP3 Del | 0 | 101 | 101 | 101 | 101 | 50.6 | 50.5 | 50.5 | 0 | 0 | 0 | 0 | 0 | 0 | 41.7 |
| 2 BPA-P to BPA-T Ops IntrlAgmt | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 |
| 3 BPA-P to PPL SNX SprgDel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 BPA-P to PPL SNX SumrDel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 BPA-P to PSE Ops UBkr Repl | 0 | 3.89 | 3.77 | 3.92 | 4.01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.28 |
| 6 BPA-P to PSE Setl WNP3 Del | 0 | 101 | 101 | 101 | 101 | 50.6 | 50.5 | 50.5 | 0 | 0 | 0 | 0 | 0 | 0 | 41.7 |
| 7 BPA-P to Unk_PNW_GPU PCRED LF | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 |
| 8 Other Entities to BPA-P | 20.4 | 16.9 | 11.1 | 16.2 | 8.96 | 26.5 | 34.5 | 34.5 | 32.9 | 42.9 | 34.4 | 38.6 | 38.7 | 25.4 | 25.8 |
| 9 PPL to BPA-P SNX SprgRtn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 PPL to BPA-P SNX SumrRtn | 91.6 | 91.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15.3 |
| 11 Total Intra-Regional Transfers | 151 | 353 | 256 | 261 | 254 | 166 | 174 | 174 | 71.6 | 81.6 | 73.1 | 77.3 | 77.4 | 64.1 | 164 |
| Intra-Regional Contracts Out | | | | | | | | | | | | | | | |
| 12 Federal Entities | 38.7 | 244 | 244 | 245 | 245 | 140 | 140 | 140 | 38.7 | 38.7 | 38.7 | 38.7 | 38.7 | 38.7 | 123 |
| 13 Investor Owned Utilities | 112 | 108 | 11.1 | 16.2 | 8.96 | 26.5 | 34.5 | 34.5 | 32.9 | 42.9 | 34.4 | 38.6 | 38.7 | 25.4 | 41.1 |
| 14 Total Regional Contracts Out | 151 | 353 | 256 | 261 | 254 | 166 | 174 | 174 | 71.6 | 81.6 | 73.1 | 77.3 | 77.4 | 64.1 | 164 |
| Intra-Regional Contracts In | | | | | | | | | | | | | | | |
| 15 Federal Entities | 121 | 117 | 20.1 | 25.2 | 18.0 | 35.5 | 43.5 | 43.5 | 41.9 | 51.9 | 43.4 | 47.6 | 47.7 | 34.4 | 50.1 |
| 16 Investor Owned Utilities | 0 | 206 | 206 | 206 | 206 | 101 | 101 | 101 | 0 | 0 | 0 | 0 | 0 | 0 | 84.6 |
| 17 Public Utility District | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 |
| 18 Total Regional Contracts In | 151 | 353 | 256 | 261 | 254 | 166 | 174 | 174 | 71.6 | 81.6 | 73.1 | 77.3 | 77.4 | 64.1 | 164 |

Table 2.9.1 - continued
Table A-4: Bonneville Power Administration - Power Services: Intra-Regional Transfers
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Avg |
|--|-------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|
| Intra-Regional Transfers | | | | | | | | | | | | | | | |
| 1 BPA-P to AVWP Setl WNP3 Del | 0 | 101 | 101 | 101 | 101 | 50.6 | 50.5 | 50.5 | 0 | 0 | 0 | 0 | 0 | 0 | 41.7 |
| 2 BPA-P to BPA-T Ops IntrlAgmt | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 |
| 3 BPA-P to PPL SNX SprgDel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 BPA-P to PPL SNX SumrDel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 BPA-P to PSE Ops UBkr Repl | 0 | 3.74 | 3.92 | 3.92 | 4.01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.28 |
| 6 BPA-P to PSE Setl WNP3 Del | 0 | 101 | 101 | 101 | 101 | 50.6 | 50.5 | 50.5 | 0 | 0 | 0 | 0 | 0 | 0 | 41.7 |
| 7 BPA-P to Unk_PNW_GPU PCRED LF | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 |
| 8 Other Entities to BPA-P | 20.4 | 17.0 | 11.1 | 16.2 | 8.96 | 26.5 | 34.5 | 34.5 | 32.9 | 42.8 | 34.4 | 38.6 | 38.7 | 25.4 | 25.8 |
| 9 PPL to BPA-P SNX SprgRtn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 PPL to BPA-P SNX SumrRtn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 Total Intra-Regional Transfers | 59.1 | 261 | 256 | 261 | 254 | 166 | 174 | 174 | 71.6 | 81.5 | 73.1 | 77.3 | 77.4 | 64.1 | 149 |
| Intra-Regional Contracts Out | | | | | | | | | | | | | | | |
| 12 Federal Entities | 38.7 | 244 | 245 | 245 | 245 | 140 | 140 | 140 | 38.7 | 38.7 | 38.7 | 38.7 | 38.7 | 38.7 | 123 |
| 13 Investor Owned Utilities | 20.4 | 17.0 | 11.1 | 16.2 | 8.96 | 26.5 | 34.5 | 34.5 | 32.9 | 42.8 | 34.4 | 38.6 | 38.7 | 25.4 | 25.8 |
| 14 Total Regional Contracts Out | 59.1 | 261 | 256 | 261 | 254 | 166 | 174 | 174 | 71.6 | 81.5 | 73.1 | 77.3 | 77.4 | 64.1 | 149 |
| Intra-Regional Contracts In | | | | | | | | | | | | | | | |
| 15 Federal Entities | 29.4 | 26.0 | 20.1 | 25.2 | 18.0 | 35.5 | 43.5 | 43.5 | 41.9 | 51.8 | 43.4 | 47.6 | 47.7 | 34.4 | 34.8 |
| 16 Investor Owned Utilities | 0 | 205 | 206 | 206 | 206 | 101 | 101 | 101 | 0 | 0 | 0 | 0 | 0 | 0 | 84.6 |
| 17 Public Utility District | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 |
| 18 Total Regional Contracts In | 59.1 | 261 | 256 | 261 | 254 | 166 | 174 | 174 | 71.6 | 81.5 | 73.1 | 77.3 | 77.4 | 64.1 | 149 |

Table 2.9.2
Table A-4: Bonneville Power Administration - Power Services: Intra-Regional Transfers
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|--|--------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Intra-Regional Transfers | | | | | | | | | | | | | | | |
| 1 BPA-P to AVWP Setl WNP3 Del | 0 | 33988 | 34044 | 35427 | 32696 | 17726 | 8864 | 8864 | 0 | 0 | 0 | 0 | 0 | 0 | 171608 |
| 2 BPA-P to BPA-T Ops IntrlAgmt | 3888 | 3600 | 3600 | 3744 | 3456 | 3744 | 1872 | 1872 | 3744 | 3600 | 3744 | 1872 | 1872 | 3600 | 44208 |
| 3 BPA-P to PPL SNX SprgDel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 BPA-P to PPL SNX SumrDel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 BPA-P to PSE Ops UBkr Repl | 0 | 2800 | 2800 | 2912 | 2688 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11200 |
| 6 BPA-P to PSE Setl WNP3 Del | 0 | 33988 | 34044 | 35427 | 32696 | 17726 | 8864 | 8864 | 0 | 0 | 0 | 0 | 0 | 0 | 171608 |
| 7 BPA-P to Unk_PNW_GPU PCRED LF | 12838 | 11887 | 11887 | 12362 | 11411 | 12362 | 6181 | 6181 | 12362 | 11887 | 12362 | 6181 | 6181 | 11887 | 145970 |
| 8 Other Entities to BPA-P | 8648 | 6449 | 3779 | 7520 | 4055 | 11750 | 7618 | 7618 | 13538 | 16215 | 13222 | 7852 | 7852 | 10434 | 126549 |
| 9 PPL to BPA-P SNX SprgRtn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 PPL to BPA-P SNX SumrRtn | 39563 | 36632 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 76195 |
| 11 Total Intra-Regional Transfers | 64936 | 129344 | 90153 | 97391 | 87003 | 63307 | 33399 | 33399 | 29644 | 31702 | 29328 | 15905 | 15905 | 25921 | 747338 |
| Intra-Regional Contracts Out | | | | | | | | | | | | | | | |
| 12 Federal Entities | 16726 | 86263 | 86374 | 89871 | 82948 | 51558 | 25781 | 25781 | 16106 | 15487 | 16106 | 8053 | 8053 | 15487 | 544594 |
| 13 Investor Owned Utilities | 48210 | 43081 | 3779 | 7520 | 4055 | 11750 | 7618 | 7618 | 13538 | 16215 | 13222 | 7852 | 7852 | 10434 | 202744 |
| 14 Total Regional Contracts Out | 64936 | 129344 | 90153 | 97391 | 87003 | 63307 | 33399 | 33399 | 29644 | 31702 | 29328 | 15905 | 15905 | 25921 | 747338 |
| Intra-Regional Contracts In | | | | | | | | | | | | | | | |
| 15 Federal Entities | 52098 | 46681 | 7379 | 11264 | 7511 | 15494 | 9490 | 9490 | 17282 | 19815 | 16966 | 9724 | 9724 | 14034 | 246952 |
| 16 Investor Owned Utilities | 0 | 70776 | 70887 | 73765 | 68081 | 35452 | 17728 | 17728 | 0 | 0 | 0 | 0 | 0 | 0 | 354416 |
| 17 Public Utility District | 12838 | 11887 | 11887 | 12362 | 11411 | 12362 | 6181 | 6181 | 12362 | 11887 | 12362 | 6181 | 6181 | 11887 | 145970 |
| 18 Total Regional Contracts In | 64936 | 129344 | 90153 | 97391 | 87003 | 63307 | 33399 | 33399 | 29644 | 31702 | 29328 | 15905 | 15905 | 25921 | 747338 |

Table 2.9.2 - continued
Table A-4: Bonneville Power Administration - Power Services: Intra-Regional Transfers
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Intra-Regional Transfers | | | | | | | | | | | | | | | |
| 1 BPA-P to AVWP Setl WNP3 Del | 0 | 32624 | 35410 | 35427 | 32696 | 17727 | 8864 | 8864 | 0 | 0 | 0 | 0 | 0 | 0 | 171614 |
| 2 BPA-P to BPA-T Ops IntrlAgmt | 3888 | 3456 | 3744 | 3744 | 3456 | 3744 | 1872 | 1872 | 3600 | 3744 | 3744 | 1872 | 1872 | 3600 | 44208 |
| 3 BPA-P to PPL SNX SprgDel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 BPA-P to PPL SNX SumrDel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 BPA-P to PSE Ops UBkr Repl | 0 | 2688 | 2912 | 2912 | 2688 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11200 |
| 6 BPA-P to PSE Setl WNP3 Del | 0 | 32624 | 35410 | 35427 | 32696 | 17727 | 8864 | 8864 | 0 | 0 | 0 | 0 | 0 | 0 | 171614 |
| 7 BPA-P to Unk_PNW_GPU PCRED LF | 12838 | 11411 | 12362 | 12362 | 11411 | 12362 | 6181 | 6181 | 11887 | 12362 | 12362 | 6181 | 6181 | 11887 | 145970 |
| 8 Other Entities to BPA-P | 8648 | 6191 | 3930 | 7520 | 4055 | 11750 | 7618 | 7618 | 13017 | 16863 | 13222 | 7852 | 7852 | 10434 | 126570 |
| 9 PPL to BPA-P SNX SprgRtn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 PPL to BPA-P SNX SumrRtn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 Total Intra-Regional Transfers | 25374 | 88994 | 93769 | 97393 | 87003 | 63311 | 33399 | 33399 | 28504 | 32970 | 29328 | 15905 | 15905 | 25921 | 671176 |
| Intra-Regional Contracts Out | | | | | | | | | | | | | | | |
| 12 Federal Entities | 16726 | 82803 | 89839 | 89873 | 82948 | 51561 | 25781 | 25781 | 15487 | 16106 | 16106 | 8053 | 8053 | 15487 | 544605 |
| 13 Investor Owned Utilities | 8648 | 6191 | 3930 | 7520 | 4055 | 11750 | 7618 | 7618 | 13017 | 16863 | 13222 | 7852 | 7852 | 10434 | 126570 |
| 14 Total Regional Contracts Out | 25374 | 88994 | 93769 | 97393 | 87003 | 63311 | 33399 | 33399 | 28504 | 32970 | 29328 | 15905 | 15905 | 25921 | 671176 |
| Intra-Regional Contracts In | | | | | | | | | | | | | | | |
| 15 Federal Entities | 12536 | 9647 | 7674 | 11264 | 7511 | 15494 | 9490 | 9490 | 16617 | 20607 | 16966 | 9724 | 9724 | 14034 | 170778 |
| 16 Investor Owned Utilities | 0 | 67936 | 73733 | 73767 | 68081 | 35455 | 17728 | 17728 | 0 | 0 | 0 | 0 | 0 | 0 | 354427 |
| 17 Public Utility District | 12838 | 11411 | 12362 | 12362 | 11411 | 12362 | 6181 | 6181 | 11887 | 12362 | 12362 | 6181 | 6181 | 11887 | 145970 |
| 18 Total Regional Contracts In | 25374 | 88994 | 93769 | 97393 | 87003 | 63311 | 33399 | 33399 | 28504 | 32970 | 29328 | 15905 | 15905 | 25921 | 671176 |

Table 2.9.3
Table A-4: Bonneville Power Administration - Power Services: Intra-Regional Transfers
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|--|--------------|---------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Intra-Regional Transfers | | | | | | | | | | | | | | | |
| 1 BPA-P to AVWP Setl WNP3 Del | 0 | 38732 | 41100 | 39717 | 35176 | 19883 | 9334 | 9334 | 0 | 0 | 0 | 0 | 0 | 0 | 193276 |
| 2 BPA-P to BPA-T Ops IntrlAgmt | 2808 | 2889 | 3096 | 2952 | 2592 | 2943 | 1368 | 1368 | 2952 | 2880 | 2952 | 1368 | 1584 | 2880 | 34632 |
| 3 BPA-P to PPL SNX SprgDel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 BPA-P to PPL SNX SumrDel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 BPA-P to PSE Ops UBkr Repl | 0 | 7.06 | 6.88 | 6.89 | 6.91 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27.7 |
| 6 BPA-P to PSE Setl WNP3 Del | 0 | 38732 | 41100 | 39717 | 35176 | 19883 | 9334 | 9334 | 0 | 0 | 0 | 0 | 0 | 0 | 193276 |
| 7 BPA-P to Unk_PNW_GPU PCRED LF | 9272 | 9539 | 10223 | 9747 | 8558 | 9717 | 4517 | 4517 | 9747 | 9509 | 9747 | 4517 | 5230 | 9509 | 114351 |
| 8 Other Entities to BPA-P | 6539 | 5745 | 4504 | 4539 | 1967 | 7911 | 4792 | 4792 | 10939 | 14675 | 12394 | 6050 | 7006 | 7845 | 99697 |
| 9 PPL to BPA-P SNX SprgRtn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 PPL to BPA-P SNX SumrRtn | 28573 | 29306 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57879 |
| 11 Total Intra-Regional Transfers | 47192 | 124950 | 100030 | 96679 | 83476 | 60338 | 29345 | 29345 | 23638 | 27064 | 25093 | 11935 | 13820 | 20235 | 693139 |
| Intra-Regional Contracts Out | | | | | | | | | | | | | | | |
| 12 Federal Entities | 12080 | 89899 | 95526 | 92140 | 81509 | 52427 | 24553 | 24553 | 12699 | 12389 | 12699 | 5885 | 6814 | 12389 | 535564 |
| 13 Investor Owned Utilities | 35112 | 35051 | 4504 | 4539 | 1967 | 7911 | 4792 | 4792 | 10939 | 14675 | 12394 | 6050 | 7006 | 7845 | 157576 |
| 14 Total Regional Contracts Out | 47192 | 124950 | 100030 | 96679 | 83476 | 60338 | 29345 | 29345 | 23638 | 27064 | 25093 | 11935 | 13820 | 20235 | 693139 |
| Intra-Regional Contracts In | | | | | | | | | | | | | | | |
| 15 Federal Entities | 37920 | 37940 | 7600 | 7491 | 4559 | 10854 | 6160 | 6160 | 13891 | 17555 | 15346 | 7418 | 8590 | 10725 | 192208 |
| 16 Investor Owned Utilities | 0 | 77471 | 82208 | 79441 | 70358 | 39766 | 18668 | 18668 | 0 | 0 | 0 | 0 | 0 | 0 | 386581 |
| 17 Public Utility District | 9272 | 9539 | 10223 | 9747 | 8558 | 9717 | 4517 | 4517 | 9747 | 9509 | 9747 | 4517 | 5230 | 9509 | 114351 |
| 18 Total Regional Contracts In | 47192 | 124950 | 100030 | 96679 | 83476 | 60338 | 29345 | 29345 | 23638 | 27064 | 25093 | 11935 | 13820 | 20235 | 693139 |

Table 2.9.3 - continued
Table A-4: Bonneville Power Administration - Power Services: Intra-Regional Transfers
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr-1 | Apr-16 | May | Jun | Jul | Aug-1 | Aug-16 | Sep | Sum |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Intra-Regional Transfers | | | | | | | | | | | | | | | |
| 1 BPA-P to AVWP Setl WNP3 Del | 0 | 40096 | 39734 | 39717 | 35176 | 19882 | 9334 | 9334 | 0 | 0 | 0 | 0 | 0 | 0 | 193271 |
| 2 BPA-P to BPA-T Ops IntrlAgmt | 2808 | 3033 | 2952 | 2952 | 2592 | 2943 | 1368 | 1368 | 3096 | 2736 | 2952 | 1368 | 1584 | 2880 | 34632 |
| 3 BPA-P to PPL SNX SprgDel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 BPA-P to PPL SNX SumrDel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 BPA-P to PSE Ops UBkr Repl | 0 | 7.08 | 6.89 | 6.89 | 6.91 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27.8 |
| 6 BPA-P to PSE Setl WNP3 Del | 0 | 40096 | 39734 | 39717 | 35176 | 19882 | 9334 | 9334 | 0 | 0 | 0 | 0 | 0 | 0 | 193271 |
| 7 BPA-P to Unk_PNW_GPU PCRED LF | 9272 | 10015 | 9747 | 9747 | 8558 | 9717 | 4517 | 4517 | 10223 | 9034 | 9747 | 4517 | 5230 | 9509 | 114351 |
| 8 Other Entities to BPA-P | 6539 | 6033 | 4294 | 4539 | 1967 | 7911 | 4792 | 4792 | 11473 | 13941 | 12394 | 6050 | 7006 | 7845 | 99575 |
| 9 PPL to BPA-P SNX SprgRtn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 PPL to BPA-P SNX SumrRtn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 Total Intra-Regional Transfers | 18619 | 99280 | 96467 | 96678 | 83476 | 60334 | 29345 | 29345 | 24791 | 25711 | 25093 | 11935 | 13820 | 20235 | 635129 |
| Intra-Regional Contracts Out | | | | | | | | | | | | | | | |
| 12 Federal Entities | 12080 | 93247 | 92173 | 92139 | 81509 | 52424 | 24553 | 24553 | 13319 | 11770 | 12699 | 5885 | 6814 | 12389 | 535554 |
| 13 Investor Owned Utilities | 6539 | 6033 | 4294 | 4539 | 1967 | 7911 | 4792 | 4792 | 11473 | 13941 | 12394 | 6050 | 7006 | 7845 | 99575 |
| 14 Total Regional Contracts Out | 18619 | 99280 | 96467 | 96678 | 83476 | 60334 | 29345 | 29345 | 24791 | 25711 | 25093 | 11935 | 13820 | 20235 | 635129 |
| Intra-Regional Contracts In | | | | | | | | | | | | | | | |
| 15 Federal Entities | 9347 | 9066 | 7246 | 7491 | 4559 | 10854 | 6160 | 6160 | 14569 | 16677 | 15346 | 7418 | 8590 | 10725 | 134207 |
| 16 Investor Owned Utilities | 0 | 80200 | 79474 | 79440 | 70358 | 39763 | 18668 | 18668 | 0 | 0 | 0 | 0 | 0 | 0 | 386571 |
| 17 Public Utility District | 9272 | 10015 | 9747 | 9747 | 8558 | 9717 | 4517 | 4517 | 10223 | 9034 | 9747 | 4517 | 5230 | 9509 | 114351 |
| 18 Total Regional Contracts In | 18619 | 99280 | 96467 | 96678 | 83476 | 60334 | 29345 | 29345 | 24791 | 25711 | 25093 | 11935 | 13820 | 20235 | 635129 |

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2.10 Total PNW Regional Hydro Resources By Water Year95
Table 2.10.1 FY 2014 Total PNW Regional Hydro Resources96
Table 2.10.2 FY 2015 Total PNW Regional Hydro Resources98

Table 2.10.1
Total Regional Hydro Resources by Water Year
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | 1-Apr | 16-Apr | May | Jun | Jul | 1-Aug | 16-Aug | Sep | Avg |
|------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|--------|-------|-------|
| 1929 | 9768 | 11425 | 11278 | 10803 | 9988 | 9382 | 9437 | 11343 | 13941 | 13945 | 11347 | 10588 | 9166 | 9269 | 10954 |
| 1930 | 8871 | 11042 | 10950 | 8638 | 10254 | 9152 | 9778 | 12881 | 13277 | 11313 | 12836 | 11003 | 9547 | 9439 | 10614 |
| 1931 | 8543 | 11323 | 10020 | 8845 | 8577 | 8939 | 10446 | 7667 | 14608 | 12027 | 12194 | 9517 | 8314 | 8654 | 10152 |
| 1932 | 8637 | 10650 | 10730 | 8494 | 7975 | 11977 | 18330 | 18164 | 19644 | 19308 | 13596 | 12757 | 11664 | 9754 | 12618 |
| 1933 | 9186 | 10608 | 12608 | 14219 | 14970 | 13851 | 14402 | 13407 | 17574 | 20762 | 17797 | 14098 | 14084 | 9729 | 14105 |
| 1934 | 10934 | 15688 | 19552 | 20919 | 19741 | 16967 | 18908 | 17994 | 18377 | 15905 | 13611 | 10697 | 10083 | 9283 | 15796 |
| 1935 | 8944 | 10645 | 12301 | 14868 | 13661 | 12522 | 14099 | 12818 | 16460 | 14991 | 15063 | 13287 | 10412 | 8371 | 12759 |
| 1936 | 9070 | 11177 | 11051 | 9580 | 8767 | 9825 | 10812 | 16491 | 19594 | 18311 | 12797 | 11002 | 9463 | 8341 | 11879 |
| 1937 | 8887 | 11373 | 11265 | 9188 | 8647 | 9404 | 10321 | 9766 | 14892 | 13394 | 12407 | 10603 | 9139 | 9365 | 10740 |
| 1938 | 8884 | 10602 | 12136 | 14185 | 13920 | 13097 | 16491 | 18558 | 19031 | 16520 | 14686 | 11268 | 10340 | 9326 | 13386 |
| 1939 | 9398 | 11312 | 11156 | 11687 | 11781 | 10304 | 13652 | 14342 | 17708 | 13685 | 12329 | 10307 | 8796 | 8800 | 11806 |
| 1940 | 9387 | 11758 | 12254 | 10845 | 10662 | 12635 | 14572 | 15498 | 16303 | 14993 | 11521 | 9775 | 8657 | 9011 | 11970 |
| 1941 | 9197 | 10633 | 11649 | 10167 | 9118 | 8871 | 10105 | 11341 | 14712 | 14742 | 12430 | 10479 | 9029 | 9734 | 10986 |
| 1942 | 9333 | 11014 | 13261 | 13803 | 10746 | 9643 | 10282 | 14283 | 15503 | 17890 | 15444 | 12153 | 10771 | 10341 | 12570 |
| 1943 | 9176 | 10588 | 12080 | 15496 | 14075 | 14234 | 19482 | 19963 | 18998 | 19859 | 14146 | 12367 | 11300 | 8838 | 14078 |
| 1944 | 9180 | 11359 | 11254 | 11134 | 10568 | 9179 | 9239 | 11912 | 12842 | 10328 | 11639 | 10703 | 9187 | 9196 | 10601 |
| 1945 | 8783 | 11161 | 9224 | 9464 | 9742 | 8799 | 8981 | 7582 | 16705 | 17645 | 11181 | 11615 | 9799 | 9148 | 10904 |
| 1946 | 8996 | 11039 | 12510 | 14076 | 13643 | 12516 | 16991 | 18870 | 19301 | 18303 | 15292 | 13588 | 11835 | 9568 | 13818 |
| 1947 | 9123 | 11413 | 17020 | 18863 | 17029 | 15083 | 15427 | 14871 | 18127 | 18549 | 15435 | 12398 | 10547 | 9245 | 14699 |
| 1948 | 13383 | 14085 | 14494 | 17818 | 15100 | 12614 | 14947 | 17568 | 20543 | 20580 | 16736 | 15132 | 15122 | 11166 | 15665 |
| 1949 | 9811 | 11347 | 12218 | 15138 | 10928 | 15221 | 16699 | 18749 | 19919 | 18458 | 11535 | 10283 | 9077 | 8624 | 13394 |
| 1950 | 9227 | 11333 | 12075 | 17837 | 15274 | 17336 | 18412 | 17393 | 19058 | 19783 | 16076 | 15183 | 14594 | 9743 | 15045 |
| 1951 | 11243 | 14932 | 17821 | 20080 | 19558 | 18988 | 18648 | 18336 | 19243 | 18050 | 16583 | 14927 | 13110 | 9824 | 16555 |
| 1952 | 12645 | 12876 | 14756 | 16774 | 15452 | 15187 | 18259 | 18886 | 20435 | 18703 | 15080 | 13151 | 11158 | 8619 | 15103 |
| 1953 | 9000 | 11407 | 11194 | 13070 | 13037 | 12378 | 13474 | 13696 | 18716 | 20694 | 16297 | 13228 | 11807 | 9495 | 13447 |
| 1954 | 9658 | 12036 | 14010 | 17132 | 16231 | 15901 | 15869 | 15351 | 18882 | 18876 | 18307 | 15996 | 15825 | 13776 | 15526 |
| 1955 | 9945 | 13168 | 13206 | 12487 | 10326 | 9024 | 10944 | 12830 | 16627 | 20509 | 18215 | 14577 | 13427 | 9297 | 13242 |
| 1956 | 10459 | 14107 | 17312 | 19884 | 19008 | 17105 | 18280 | 20040 | 20395 | 21089 | 17086 | 14925 | 13894 | 9465 | 16609 |
| 1957 | 10202 | 11367 | 14195 | 14551 | 12597 | 13252 | 18350 | 15474 | 20943 | 20861 | 14499 | 12090 | 10703 | 9313 | 14180 |
| 1958 | 9307 | 11452 | 11826 | 15280 | 13551 | 13971 | 15620 | 16101 | 19743 | 19409 | 13803 | 11736 | 10547 | 9051 | 13696 |
| 1959 | 9313 | 12760 | 16183 | 19111 | 17781 | 15914 | 17040 | 15546 | 17944 | 19695 | 15372 | 14895 | 14235 | 13960 | 15724 |
| 1960 | 14745 | 15801 | 15953 | 16298 | 14470 | 13409 | 20262 | 17726 | 17705 | 17988 | 14831 | 12555 | 10343 | 9073 | 15057 |
| 1961 | 9555 | 11672 | 12629 | 16238 | 14572 | 15466 | 17301 | 13508 | 18578 | 19670 | 14143 | 11590 | 10935 | 8795 | 13994 |
| 1962 | 9233 | 11244 | 11572 | 14475 | 13759 | 10726 | 19115 | 19206 | 18518 | 18799 | 11343 | 11643 | 10597 | 8720 | 13203 |
| 1963 | 10069 | 13161 | 15622 | 14486 | 14730 | 11858 | 13361 | 13724 | 17095 | 18919 | 14891 | 12101 | 10960 | 9572 | 13780 |
| 1964 | 9149 | 10990 | 12563 | 13344 | 12262 | 11184 | 16477 | 13192 | 18233 | 20618 | 17731 | 14509 | 14349 | 10708 | 13845 |
| 1965 | 10904 | 12388 | 17419 | 20191 | 20941 | 17818 | 14818 | 19258 | 19537 | 17659 | 14942 | 15307 | 14805 | 9335 | 16083 |
| 1966 | 9972 | 12078 | 12996 | 14329 | 12851 | 10545 | 18510 | 14870 | 16710 | 16013 | 15163 | 12490 | 10723 | 9235 | 13179 |
| 1967 | 9133 | 10943 | 13269 | 17491 | 17085 | 17113 | 13972 | 10404 | 17904 | 19723 | 16501 | 14222 | 12596 | 9446 | 14509 |
| 1968 | 9840 | 12098 | 13113 | 16250 | 16215 | 15041 | 12534 | 12024 | 14530 | 18852 | 15799 | 13884 | 12733 | 11717 | 14071 |
| 1969 | 11260 | 14137 | 14924 | 18908 | 18761 | 15038 | 18520 | 18841 | 19813 | 18421 | 15512 | 13632 | 11601 | 9350 | 15595 |
| 1970 | 9489 | 11599 | 11709 | 14334 | 13507 | 12579 | 14317 | 12360 | 17608 | 19419 | 12865 | 11329 | 10233 | 8801 | 12993 |
| 1971 | 9106 | 11242 | 11938 | 20072 | 19059 | 18042 | 17956 | 17842 | 20143 | 20183 | 17960 | 15458 | 14282 | 10355 | 15888 |
| 1972 | 10119 | 11743 | 13558 | 19884 | 18922 | 20813 | 20043 | 16954 | 20153 | 20386 | 18002 | 15982 | 15288 | 11551 | 16596 |
| 1973 | 10037 | 11495 | 13282 | 14344 | 12239 | 9725 | 8084 | 11567 | 14458 | 15050 | 11991 | 10593 | 9200 | 9441 | 11814 |
| 1974 | 8858 | 11044 | 13886 | 22021 | 21310 | 18954 | 19077 | 19266 | 19805 | 20009 | 18468 | 15437 | 14772 | 11005 | 16611 |
| 1975 | 9176 | 11533 | 12222 | 14679 | 15005 | 14373 | 13198 | 13522 | 18625 | 20433 | 18375 | 14474 | 12900 | 10361 | 14315 |
| 1976 | 11306 | 14682 | 19124 | 18836 | 18321 | 17095 | 18549 | 18456 | 19962 | 19115 | 17332 | 16095 | 16097 | 14535 | 17069 |
| 1977 | 9911 | 11324 | 11100 | 10949 | 11057 | 9475 | 8553 | 11546 | 12311 | 10000 | 10957 | 10156 | 8923 | 8277 | 10411 |
| 1978 | 8692 | 10249 | 13742 | 14219 | 12970 | 12364 | 18113 | 15103 | 18435 | 15549 | 14847 | 11673 | 10455 | 11672 | 13367 |
| 1979 | 10107 | 11403 | 11536 | 13141 | 10310 | 12847 | 12476 | 13736 | 19100 | 14131 | 11361 | 9848 | 9174 | 8880 | 12136 |
| 1980 | 9088 | 11198 | 10899 | 11331 | 11644 | 9645 | 14728 | 15759 | 20160 | 18822 | 12274 | 11239 | 9733 | 9253 | 12496 |
| 1981 | 9355 | 11342 | 16657 | 17206 | 13923 | 11865 | 10765 | 15066 | 19195 | 20248 | 16094 | 13842 | 13779 | 9821 | 14382 |
| 1982 | 9473 | 11963 | 14085 | 17344 | 18444 | 19704 | 17160 | 15982 | 19607 | 20030 | 16204 | 15348 | 14517 | 12367 | 15878 |
| 1983 | 11082 | 12158 | 14639 | 18584 | 16868 | 17856 | 17045 | 15422 | 18840 | 18460 | 16493 | 15188 | 14208 | 10093 | 15501 |
| 1984 | 9682 | 15143 | 14482 | 16911 | 16389 | 14799 | 18986 | 18437 | 18197 | 20746 | 16790 | 13383 | 11793 | 9909 | 15343 |
| 1985 | 9818 | 12322 | 12768 | 13542 | 12748 | 12381 | 15778 | 16340 | 18976 | 16081 | 9548 | 9435 | 8373 | 8853 | 12657 |

Table 2.10.1
Total Regional Hydro Resources by Water Year
 Fiscal Year 2014
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | 1-Apr | 16-Apr | May | Jun | Jul | 1-Aug | 16-Aug | Sep | Avg |
|------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|--------|-------|-------|
| 1986 | 9439 | 13655 | 12391 | 16130 | 15524 | 20526 | 17724 | 17307 | 16505 | 18302 | 13332 | 11688 | 9939 | 8876 | 14403 |
| 1987 | 9094 | 11238 | 13001 | 12347 | 9642 | 12244 | 11833 | 13047 | 17793 | 15110 | 11706 | 9389 | 8084 | 8967 | 11876 |
| 1988 | 8645 | 10978 | 10576 | 9338 | 8892 | 9243 | 10077 | 13230 | 14473 | 15010 | 12968 | 10095 | 9095 | 9074 | 10877 |
| 1989 | 8316 | 10539 | 11706 | 11358 | 9937 | 11008 | 15717 | 18233 | 17655 | 15238 | 11661 | 10385 | 8922 | 8740 | 11902 |
| 1990 | 8753 | 11649 | 12995 | 15729 | 15029 | 15017 | 14944 | 18857 | 17489 | 18311 | 14554 | 13570 | 11913 | 9089 | 14011 |
| 1991 | 8599 | 14887 | 15025 | 16640 | 17011 | 15449 | 16602 | 15416 | 18325 | 17792 | 17000 | 14291 | 13837 | 9125 | 14983 |
| 1992 | 8776 | 11110 | 10905 | 11150 | 10421 | 10426 | 10740 | 11960 | 16172 | 13959 | 10739 | 9411 | 8432 | 8991 | 11078 |
| 1993 | 8521 | 11033 | 11167 | 8829 | 8404 | 10813 | 11379 | 13086 | 17259 | 15956 | 13309 | 10925 | 9456 | 8859 | 11396 |
| 1994 | 8497 | 11553 | 11404 | 9722 | 8741 | 9524 | 9794 | 12803 | 15856 | 15179 | 12387 | 10382 | 8967 | 9297 | 11104 |
| 1995 | 8324 | 10485 | 10554 | 11945 | 13686 | 13753 | 15728 | 13154 | 16064 | 18719 | 14140 | 11311 | 10087 | 9953 | 12713 |
| 1996 | 10042 | 16425 | 20832 | 21428 | 20022 | 20722 | 17836 | 19891 | 19520 | 19208 | 17284 | 14705 | 14041 | 9364 | 17332 |
| 1997 | 9441 | 11885 | 14596 | 21147 | 21098 | 20810 | 18608 | 20129 | 20019 | 20910 | 18043 | 15654 | 14701 | 12217 | 17034 |
| 1998 | 14176 | 14031 | 14229 | 14255 | 14178 | 12651 | 13649 | 15381 | 20946 | 20798 | 14978 | 13486 | 10689 | 9383 | 14686 |
| 1999 | 9153 | 11005 | 14017 | 18870 | 18365 | 18270 | 16833 | 17923 | 19638 | 21205 | 18172 | 15876 | 15236 | 11277 | 16064 |
| 2000 | 9617 | 15485 | 15977 | 16041 | 14621 | 14101 | 18534 | 19420 | 17576 | 16390 | 14511 | 13082 | 9906 | 9160 | 14485 |
| 2001 | 9253 | 11063 | 11072 | 10786 | 10500 | 9126 | 9076 | 11605 | 13881 | 9656 | 11654 | 10082 | 9174 | 8622 | 10470 |
| 2002 | 7370 | 10431 | 10794 | 10646 | 10424 | 9685 | 16311 | 17523 | 16158 | 19451 | 16825 | 13348 | 11348 | 9148 | 12515 |
| 2003 | 8615 | 11478 | 11291 | 10367 | 10102 | 13347 | 14643 | 14335 | 15905 | 18658 | 11615 | 9784 | 8251 | 8691 | 11963 |
| 2004 | 9234 | 11304 | 12476 | 11511 | 10555 | 10027 | 11790 | 14594 | 16987 | 16572 | 12284 | 10235 | 9637 | 9764 | 11990 |
| 2005 | 9652 | 11438 | 13769 | 14203 | 12420 | 10763 | 10669 | 12706 | 16886 | 17023 | 12588 | 10844 | 9061 | 9006 | 12449 |
| 2006 | 8601 | 11139 | 12398 | 15552 | 16696 | 14219 | 19566 | 19192 | 20472 | 19190 | 14011 | 11066 | 10011 | 8831 | 14226 |
| 2007 | 8592 | 11951 | 12561 | 15743 | 13082 | 16412 | 16616 | 15182 | 17861 | 16036 | 14559 | 11256 | 8861 | 8702 | 13458 |
| 2008 | 8996 | 10928 | 11547 | 12238 | 11037 | 10915 | 12826 | 11273 | 19943 | 21505 | 15941 | 12698 | 11549 | 8845 | 13017 |

Table 2.10.2
Total Regional Hydro Resources by Water Year
Fiscal Year 2015
103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | 1-Apr | 16-Apr | May | Jun | Jul | 1-Aug | 16-Aug | Sep | Avg |
|------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|--------|-------|-------|
| 1929 | 9550 | 11421 | 11286 | 10845 | 10480 | 9468 | 9464 | 11820 | 13235 | 13585 | 10118 | 10369 | 9607 | 8754 | 10779 |
| 1930 | 8962 | 11269 | 11039 | 9882 | 10725 | 9593 | 10221 | 12933 | 13199 | 9943 | 12753 | 10776 | 9596 | 8614 | 10646 |
| 1931 | 8831 | 11207 | 11194 | 9060 | 8554 | 9186 | 10747 | 9634 | 14637 | 11466 | 11975 | 9778 | 8264 | 8683 | 10346 |
| 1932 | 8637 | 10671 | 10950 | 8504 | 8327 | 13140 | 16776 | 18101 | 19573 | 19224 | 13446 | 12280 | 11842 | 9014 | 12600 |
| 1933 | 9263 | 10597 | 13449 | 14125 | 15324 | 13567 | 14402 | 13322 | 17628 | 20563 | 17812 | 14049 | 14084 | 9392 | 14133 |
| 1934 | 10698 | 15679 | 19651 | 20912 | 19746 | 17013 | 18665 | 17800 | 18129 | 15756 | 13356 | 10337 | 9752 | 8738 | 15640 |
| 1935 | 9218 | 10481 | 13210 | 14918 | 14583 | 13965 | 12612 | 12723 | 16607 | 15032 | 15270 | 13583 | 10878 | 8326 | 13041 |
| 1936 | 8820 | 11106 | 11089 | 10341 | 9463 | 9925 | 11425 | 16561 | 19146 | 18080 | 12441 | 10987 | 9343 | 8288 | 11912 |
| 1937 | 8734 | 11165 | 11273 | 9929 | 8699 | 9364 | 10255 | 9764 | 14273 | 12774 | 11785 | 11024 | 9463 | 8533 | 10578 |
| 1938 | 9190 | 10792 | 13527 | 14443 | 13443 | 12643 | 16456 | 18504 | 18892 | 17379 | 14251 | 11158 | 9798 | 9019 | 13457 |
| 1939 | 9350 | 11293 | 11166 | 12704 | 11858 | 10628 | 13724 | 14397 | 17621 | 12326 | 11930 | 10197 | 9293 | 8689 | 11781 |
| 1940 | 9415 | 11259 | 13364 | 12555 | 10255 | 14923 | 14197 | 13462 | 15660 | 12725 | 11742 | 10165 | 8926 | 8400 | 11989 |
| 1941 | 9103 | 10541 | 12815 | 10283 | 10284 | 9741 | 10349 | 11339 | 14651 | 12175 | 12625 | 10520 | 9234 | 8110 | 10930 |
| 1942 | 9171 | 11855 | 13408 | 13291 | 12608 | 11583 | 11392 | 14084 | 15282 | 15890 | 15444 | 12153 | 10478 | 9592 | 12682 |
| 1943 | 9306 | 10580 | 12544 | 15269 | 15164 | 14225 | 19262 | 19675 | 18749 | 19536 | 14145 | 12417 | 11184 | 8732 | 14111 |
| 1944 | 8724 | 11114 | 11216 | 11156 | 10860 | 9573 | 9237 | 12237 | 12323 | 9759 | 11260 | 10377 | 8919 | 8144 | 10375 |
| 1945 | 8921 | 10954 | 10175 | 9644 | 9934 | 9434 | 9331 | 9062 | 16759 | 17651 | 10867 | 11332 | 9939 | 8615 | 11067 |
| 1946 | 8894 | 10786 | 13468 | 14220 | 13448 | 12967 | 16973 | 18849 | 19162 | 18275 | 15292 | 13598 | 11815 | 9164 | 13857 |
| 1947 | 8826 | 11577 | 17330 | 17609 | 16990 | 16484 | 15520 | 14747 | 18111 | 18476 | 15661 | 12905 | 10493 | 9039 | 14735 |
| 1948 | 13095 | 14072 | 14834 | 17813 | 15385 | 13031 | 15006 | 17551 | 20172 | 20296 | 16874 | 14925 | 14856 | 10858 | 15638 |
| 1949 | 9556 | 11335 | 12583 | 14873 | 12113 | 15147 | 16762 | 18093 | 19192 | 18501 | 11376 | 10337 | 9171 | 8460 | 13362 |
| 1950 | 9071 | 11241 | 12775 | 17856 | 16768 | 16420 | 18469 | 17240 | 18996 | 19577 | 16216 | 15226 | 14326 | 9469 | 15075 |
| 1951 | 10950 | 14902 | 18086 | 20149 | 20443 | 18330 | 18508 | 18296 | 19155 | 17384 | 16869 | 14440 | 13674 | 9548 | 16505 |
| 1952 | 12355 | 12864 | 15097 | 16774 | 16264 | 13966 | 18244 | 19450 | 20241 | 19200 | 14591 | 12525 | 10465 | 8528 | 15007 |
| 1953 | 8705 | 10886 | 11343 | 14201 | 13206 | 13014 | 13473 | 13486 | 18643 | 20505 | 16401 | 12319 | 11306 | 9217 | 13451 |
| 1954 | 9361 | 12023 | 14359 | 16883 | 16232 | 15299 | 15809 | 15393 | 18927 | 19057 | 18413 | 15639 | 15461 | 13493 | 15430 |
| 1955 | 9694 | 13156 | 13565 | 12512 | 11786 | 10449 | 11893 | 12833 | 16269 | 20003 | 18191 | 14577 | 13026 | 8994 | 13408 |
| 1956 | 10178 | 14093 | 17590 | 20614 | 18054 | 16973 | 18237 | 19976 | 20203 | 20737 | 17180 | 14959 | 14004 | 9189 | 16527 |
| 1957 | 9889 | 11354 | 14538 | 14746 | 13251 | 13124 | 18502 | 14824 | 20425 | 20620 | 14997 | 12653 | 11261 | 8960 | 14214 |
| 1958 | 9150 | 11429 | 12130 | 15477 | 13814 | 14245 | 15725 | 16137 | 19471 | 19272 | 13617 | 10997 | 10596 | 8845 | 13677 |
| 1959 | 9534 | 12393 | 16354 | 19107 | 18068 | 15466 | 17040 | 15559 | 17943 | 19543 | 15164 | 15012 | 14236 | 13922 | 15682 |
| 1960 | 14531 | 15791 | 16224 | 16299 | 14428 | 13332 | 20168 | 17666 | 17582 | 17922 | 15088 | 12694 | 10524 | 8886 | 15050 |
| 1961 | 9334 | 11566 | 12977 | 16298 | 14794 | 15611 | 16350 | 13446 | 18403 | 19596 | 14674 | 12290 | 11176 | 8640 | 14039 |
| 1962 | 8930 | 11216 | 12068 | 14454 | 13931 | 10629 | 19223 | 19138 | 18455 | 18779 | 11456 | 11819 | 10299 | 8583 | 13207 |
| 1963 | 9967 | 12834 | 15942 | 15881 | 15300 | 13214 | 12845 | 13222 | 16567 | 16397 | 14926 | 12286 | 10784 | 9303 | 13736 |
| 1964 | 8928 | 10977 | 12831 | 13322 | 12106 | 10922 | 16565 | 13099 | 18041 | 20319 | 17866 | 14509 | 14350 | 10378 | 13755 |
| 1965 | 10655 | 12376 | 17734 | 21141 | 19915 | 17453 | 14518 | 19208 | 19423 | 17651 | 15751 | 15264 | 14800 | 8956 | 16070 |
| 1966 | 9710 | 12034 | 13349 | 14295 | 12922 | 11175 | 18556 | 15064 | 15918 | 15972 | 15171 | 13231 | 10676 | 9140 | 13200 |
| 1967 | 8854 | 10886 | 13515 | 17772 | 17183 | 16150 | 13972 | 10622 | 17713 | 19558 | 16715 | 14403 | 12596 | 9173 | 14433 |
| 1968 | 9546 | 12067 | 13474 | 16318 | 15257 | 16133 | 12534 | 12025 | 14523 | 18656 | 15819 | 13914 | 12879 | 11410 | 14067 |
| 1969 | 11011 | 14126 | 15264 | 18898 | 18680 | 15071 | 18338 | 18707 | 19489 | 18372 | 15646 | 13749 | 11507 | 9095 | 15544 |
| 1970 | 9295 | 11592 | 12024 | 14425 | 14777 | 13027 | 14351 | 11401 | 16955 | 19140 | 13491 | 10691 | 9610 | 8706 | 13022 |
| 1971 | 8775 | 11197 | 12187 | 19082 | 20279 | 18047 | 17937 | 18095 | 19910 | 19983 | 17861 | 15458 | 14283 | 10084 | 15830 |
| 1972 | 9804 | 11731 | 13920 | 19873 | 18922 | 20701 | 19955 | 16920 | 19999 | 20119 | 18056 | 15982 | 15288 | 11281 | 16531 |
| 1973 | 9749 | 11478 | 13648 | 14624 | 12724 | 10055 | 8084 | 11567 | 14423 | 12419 | 11767 | 10736 | 9149 | 8791 | 11620 |
| 1974 | 9017 | 10544 | 15478 | 22018 | 21205 | 19159 | 18976 | 19143 | 19541 | 19747 | 18474 | 15484 | 14840 | 10756 | 16659 |
| 1975 | 8869 | 11505 | 12587 | 14573 | 14970 | 14186 | 13198 | 13522 | 18374 | 20172 | 18553 | 14647 | 13191 | 10027 | 14255 |
| 1976 | 11054 | 14671 | 19386 | 18836 | 18271 | 16993 | 18531 | 18403 | 19794 | 18653 | 17692 | 15914 | 15914 | 14252 | 16993 |
| 1977 | 9656 | 11318 | 11101 | 10967 | 11153 | 9930 | 8763 | 11435 | 12369 | 8567 | 11347 | 10044 | 8883 | 7882 | 10322 |
| 1978 | 8052 | 10442 | 14518 | 14635 | 13885 | 12362 | 18094 | 15158 | 18418 | 15553 | 15700 | 11681 | 10329 | 10401 | 13463 |
| 1979 | 9857 | 11402 | 12139 | 13504 | 11327 | 12724 | 12476 | 13722 | 18214 | 13441 | 10842 | 9939 | 9295 | 8855 | 12095 |
| 1980 | 9054 | 11180 | 10926 | 12468 | 11706 | 10039 | 14831 | 15743 | 20029 | 18769 | 12372 | 11046 | 9473 | 9030 | 12588 |
| 1981 | 9214 | 11341 | 16766 | 17103 | 16198 | 13702 | 10615 | 13652 | 17046 | 20042 | 16068 | 14094 | 13779 | 9945 | 14455 |
| 1982 | 9242 | 11880 | 14428 | 17329 | 18744 | 19979 | 17300 | 15955 | 19520 | 19937 | 16687 | 14980 | 14339 | 11625 | 15872 |
| 1983 | 10831 | 12145 | 14982 | 18543 | 16924 | 17759 | 17044 | 14864 | 18563 | 18155 | 17156 | 15107 | 14678 | 10199 | 15511 |
| 1984 | 9427 | 15131 | 14825 | 16829 | 16425 | 14949 | 18966 | 17804 | 18166 | 20344 | 16790 | 14653 | 12333 | 9714 | 15356 |

Table 2.10.2
 Total Regional Hydro Resources by Water Year
 Fiscal Year 2015
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | 1-Apr | 16-Apr | May | Jun | Jul | 1-Aug | 16-Aug | Sep | Avg |
|------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|--------|-------|-------|
| 1985 | 9552 | 12309 | 13128 | 13489 | 12691 | 12328 | 15779 | 16168 | 18890 | 15398 | 9573 | 9380 | 8811 | 8474 | 12568 |
| 1986 | 10633 | 13735 | 12657 | 16021 | 15633 | 20403 | 17682 | 17306 | 16506 | 18304 | 13330 | 11688 | 9791 | 8681 | 14498 |
| 1987 | 8827 | 11217 | 13343 | 13249 | 11610 | 12240 | 11833 | 13053 | 16542 | 14855 | 11279 | 9701 | 8679 | 8494 | 11944 |
| 1988 | 8688 | 10856 | 10543 | 10099 | 8893 | 9872 | 10595 | 13135 | 14362 | 12588 | 13174 | 10755 | 9315 | 8170 | 10774 |
| 1989 | 8664 | 10613 | 12723 | 11388 | 9474 | 11423 | 15841 | 18174 | 17616 | 15246 | 10912 | 10231 | 9396 | 8413 | 11950 |
| 1990 | 8784 | 12132 | 13876 | 15629 | 15387 | 14439 | 14622 | 18790 | 17573 | 18369 | 14247 | 13116 | 11747 | 9020 | 14036 |
| 1991 | 8274 | 14473 | 15327 | 16591 | 17016 | 15256 | 16501 | 14651 | 18182 | 18118 | 17177 | 14291 | 13837 | 8985 | 14909 |
| 1992 | 8418 | 11091 | 11372 | 12301 | 11536 | 11630 | 10536 | 11582 | 13854 | 11229 | 10750 | 9725 | 8753 | 7951 | 10868 |
| 1993 | 8812 | 10721 | 11567 | 9174 | 8440 | 10883 | 11441 | 13209 | 17371 | 16380 | 12666 | 11195 | 9850 | 8124 | 11433 |
| 1994 | 8630 | 11387 | 11730 | 10211 | 10348 | 9627 | 9867 | 12910 | 15931 | 14524 | 12179 | 10428 | 9087 | 8742 | 11207 |
| 1995 | 8507 | 10291 | 11942 | 11954 | 14173 | 15682 | 13225 | 12280 | 15623 | 18611 | 14192 | 11311 | 10293 | 8805 | 12766 |
| 1996 | 10744 | 16380 | 20929 | 21448 | 20892 | 20439 | 18034 | 19727 | 19195 | 19241 | 17338 | 14839 | 14042 | 8960 | 17394 |
| 1997 | 9138 | 11862 | 14939 | 21197 | 20928 | 20853 | 18585 | 20052 | 19990 | 20816 | 18175 | 15508 | 14701 | 11993 | 17003 |
| 1998 | 13960 | 14019 | 14588 | 15071 | 13801 | 12651 | 13663 | 14661 | 20284 | 20521 | 15364 | 14377 | 11607 | 9127 | 14718 |
| 1999 | 8935 | 10866 | 14461 | 18988 | 18489 | 18361 | 16832 | 17277 | 19467 | 21014 | 18294 | 15795 | 15339 | 10976 | 16029 |
| 2000 | 9466 | 15383 | 16275 | 16053 | 14611 | 14121 | 18468 | 19255 | 17061 | 16632 | 15059 | 13082 | 9687 | 8906 | 14474 |
| 2001 | 9068 | 11031 | 11081 | 10823 | 10563 | 9835 | 9202 | 11988 | 13720 | 8324 | 11296 | 10127 | 8995 | 7258 | 10270 |
| 2002 | 7879 | 10337 | 12099 | 11508 | 11114 | 10305 | 14650 | 17513 | 16209 | 19450 | 16825 | 12895 | 10642 | 8782 | 12696 |
| 2003 | 8268 | 11271 | 11333 | 11318 | 10648 | 13424 | 14639 | 14341 | 15904 | 18724 | 10859 | 9365 | 8529 | 8154 | 11941 |
| 2004 | 9274 | 10962 | 13802 | 12279 | 9745 | 11632 | 13359 | 13359 | 16092 | 15932 | 11613 | 9895 | 9410 | 10435 | 12076 |
| 2005 | 9462 | 11426 | 14127 | 14183 | 13335 | 11099 | 10668 | 12706 | 16661 | 16563 | 12003 | 11065 | 9273 | 8712 | 12446 |
| 2006 | 9094 | 10835 | 12701 | 15465 | 16703 | 14256 | 19180 | 19199 | 20331 | 19295 | 13809 | 11285 | 10010 | 8516 | 14212 |
| 2007 | 8036 | 12337 | 12991 | 15921 | 13067 | 16849 | 16610 | 15105 | 17674 | 15906 | 14559 | 11027 | 9246 | 8046 | 13453 |
| 2008 | 9105 | 10639 | 12390 | 12452 | 11578 | 10949 | 13039 | 10942 | 19721 | 21324 | 15994 | 12234 | 11742 | 8627 | 13074 |

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| | | |
|------|--|-----|
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| | Table 2.11.1 FY 2014 - 4(h)(10)C Power Purchase Amount | 102 |
| | Table 2.11.2 FY 2015 - 4(h)(10)C Power Purchase Amount | 104 |

Table 2.11.1
4(h)(10)(C) Power Purchase Amounts
Fiscal Year 2014
Energy in Average Megawatts

| | Oct | Nov | Dec | Jan | Feb | Mar | Ap1 | Ap2 | May | Jun | Jul | Ag1 | Ag2 | Sep | Avg |
|------|------|------|------|------|------|------|-----|------|------|------|------|-------|------|------|------|
| 1929 | 941 | 353 | 1392 | 2071 | 1934 | 1673 | 888 | -56 | -2 | 0 | 0 | -133 | -63 | 461 | 757 |
| 1930 | 1228 | 480 | 1445 | 3780 | 1553 | 1689 | 326 | 0 | 24 | 1300 | 0 | -72 | -58 | -27 | 965 |
| 1931 | 989 | 158 | 2566 | 4022 | 2439 | 1650 | 459 | 2363 | -121 | 449 | 0 | 0 | 291 | 934 | 1216 |
| 1932 | 491 | 498 | 1657 | 3668 | 3488 | 1060 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -7 | 892 |
| 1933 | 1102 | 1047 | 405 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 490 | 254 |
| 1934 | 94 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -596 | -5 | -51 | 0 | 93 | -36 |
| 1935 | 847 | 1263 | 1025 | 179 | 0 | 0 | 0 | 1120 | 0 | 0 | 0 | 0 | 0 | 1273 | 429 |
| 1936 | 1085 | 368 | 1397 | 3210 | 2668 | 1346 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1133 | 926 |
| 1937 | 1156 | 0 | 1239 | 3215 | 2742 | 1546 | 354 | 1000 | -87 | -151 | -240 | -323 | -135 | -85 | 807 |
| 1938 | 986 | 1238 | 810 | 619 | 0 | 0 | 0 | 0 | 0 | 0 | -303 | -143 | -127 | 585 | 318 |
| 1939 | 934 | 560 | 1533 | 1804 | 892 | 1076 | 0 | 0 | 0 | -449 | 0 | 0 | 158 | 879 | 611 |
| 1940 | 808 | 0 | 534 | 2109 | 1701 | 0 | 0 | 0 | 0 | -55 | 0 | 667 | 223 | -68 | 451 |
| 1941 | 504 | 806 | 1451 | 2873 | 1896 | 1610 | 672 | 0 | 0 | 0 | 0 | 0 | 0 | -38 | 783 |
| 1942 | 270 | 51 | 0 | 0 | 2048 | 2815 | 44 | 0 | 0 | 0 | 0 | 0 | 0 | -791 | 360 |
| 1943 | 644 | 1222 | 822 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 918 | 300 |
| 1944 | 1188 | 348 | 1479 | 1901 | 1726 | 1948 | 832 | 0 | 597 | 2031 | 0 | 0 | 58 | 488 | 1009 |
| 1945 | 550 | 173 | 2845 | 3231 | 2942 | 2016 | 95 | 2305 | 0 | 0 | -132 | -1035 | -641 | -350 | 962 |
| 1946 | 820 | 643 | 876 | 612 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 389 | 281 |
| 1947 | 1254 | 504 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 682 | 204 |
| 1948 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1949 | 850 | 472 | 664 | 0 | 1285 | 0 | 0 | 0 | 0 | 0 | -407 | -178 | -226 | 324 | 241 |
| 1950 | 862 | 630 | 896 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 438 | 237 |
| 1951 | 181 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 466 | 54 |
| 1952 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1277 | 105 |
| 1953 | 1238 | 369 | 1408 | 1086 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 610 | 397 |
| 1954 | 948 | 167 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 94 |
| 1955 | 819 | 0 | 60 | 1113 | 1965 | 1745 | -79 | 0 | 0 | 0 | 0 | 0 | 0 | 837 | 534 |
| 1956 | 709 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 620 | 111 |
| 1957 | 714 | 531 | 0 | 0 | 473 | 0 | 0 | 0 | 0 | 0 | 0 | -29 | -82 | 656 | 190 |
| 1958 | 1059 | 278 | 1046 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -125 | -174 | 0 | 787 | 249 |
| 1959 | 1077 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 91 |
| 1960 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -279 | 0 | 0 | 993 | 58 |
| 1961 | 865 | 417 | 372 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -346 | -212 | 0 | 838 | 170 |
| 1962 | 1112 | 372 | 1186 | 0 | 0 | 775 | 0 | 0 | 0 | 0 | -28 | 0 | 0 | 1044 | 375 |
| 1963 | 614 | 0 | 0 | 0 | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 408 | 98 |
| 1964 | 1148 | 804 | 431 | 672 | 639 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 319 |
| 1965 | 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 800 | 73 |
| 1966 | 648 | 0 | 0 | 0 | 0 | 1275 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 778 | 227 |
| 1967 | 1073 | 651 | 82 | 0 | 0 | 0 | 0 | 884 | 0 | 0 | 0 | 0 | 0 | 501 | 229 |
| 1968 | 843 | 0 | 4 | 0 | 0 | 0 | 0 | -398 | 0 | 0 | 0 | 0 | 0 | 0 | 56 |
| 1969 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -216 | 0 | 0 | 695 | 39 |

Table 2.11.1 - continued
4(h)(10)(C) Power Purchase Amounts
Fiscal Year 2014
Energy in Average Megawatts

| | Oct | Nov | Dec | Jan | Feb | Mar | Ap1 | Ap2 | May | Jun | Jul | Ag1 | Ag2 | Sep | Avg |
|---------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 1970 | 1034 | 162 | 1181 | 0 | 0 | 0 | 0 | -454 | 0 | 0 | 0 | -172 | 0 | 953 | 254 |
| 1971 | 1098 | 542 | 814 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 207 |
| 1972 | 666 | 346 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 |
| 1973 | 692 | 204 | 252 | 0 | 623 | 1409 | 1731 | -198 | 0 | 0 | -123 | 152 | 249 | 0 | 334 |
| 1974 | 903 | 778 | 220 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159 |
| 1975 | 1227 | 364 | 872 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 208 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1977 | 607 | 242 | 1316 | 1933 | 1226 | 1513 | 1135 | -53 | 1029 | 2316 | 0 | -244 | 184 | 1091 | 980 |
| 1978 | 636 | 929 | -156 | 0 | 131 | 906 | 0 | 0 | 0 | 0 | 0 | -88 | 0 | 0 | 201 |
| 1979 | 213 | 609 | 1357 | 1206 | 1439 | 0 | 0 | 407 | 0 | -548 | -190 | 188 | -41 | 400 | 391 |
| 1980 | 810 | 665 | 1669 | 2569 | 420 | 1767 | 0 | 0 | 0 | 0 | -369 | -277 | -271 | 173 | 625 |
| 1981 | 812 | 356 | 0 | 0 | 0 | 83 | -753 | 0 | 0 | 0 | 0 | 0 | 0 | 264 | 96 |
| 1982 | 1025 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 87 |
| 1983 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 158 | 13 |
| 1984 | 859 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 211 | 90 |
| 1985 | 872 | 6 | 175 | 164 | 91 | -5 | 0 | 0 | 0 | 0 | 385 | 627 | 464 | 389 | 221 |
| 1986 | 881 | 0 | 494 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -190 | 0 | 0 | 894 | 174 |
| 1987 | 1204 | 596 | 15 | 1252 | 2352 | -316 | 0 | 0 | 0 | -292 | -92 | 409 | 310 | 124 | 421 |
| 1988 | 995 | 920 | 2033 | 4019 | 2143 | 2163 | -202 | 830 | -162 | -236 | -281 | -189 | -116 | -4 | 978 |
| 1989 | 1107 | 1092 | 1009 | 2813 | 1340 | 610 | 0 | 0 | 0 | -593 | -444 | -84 | 19 | 281 | 597 |
| 1990 | 1025 | 656 | 333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 879 | 242 |
| 1991 | 1392 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 780 | 182 |
| 1992 | 1208 | 421 | 1441 | 1871 | 1932 | 875 | -500 | -148 | 0 | 0 | 0 | 749 | 285 | -274 | 635 |
| 1993 | 840 | 300 | 1759 | 3973 | 2286 | 365 | 58 | -84 | 0 | 0 | 0 | -402 | 0 | -160 | 758 |
| 1994 | 1149 | 93 | 1287 | 3785 | 2213 | 1798 | 45 | 1223 | 0 | -266 | 0 | -117 | -133 | -229 | 859 |
| 1995 | 1076 | 1091 | 1633 | 2264 | 0 | 0 | 0 | 626 | 0 | 0 | 0 | 0 | 0 | -39 | 535 |
| 1996 | 511 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 781 | 108 |
| 1997 | 1053 | 132 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| 1998 | 0 | 0 | 0 | 277 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 791 | 89 |
| 1999 | 1146 | 904 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 172 |
| 2000 | 877 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -230 | 963 | 144 |
| 2001 | 1088 | 363 | 1371 | 1939 | 1494 | 1806 | 956 | 0 | 48 | 2741 | -3 | -285 | -150 | 926 | 998 |
| 2002 | 1544 | 621 | 1701 | 2196 | 1603 | 2317 | 0 | 0 | 0 | 0 | 0 | -363 | 0 | 463 | 856 |
| 2003 | 1308 | 0 | 1256 | 2823 | 1980 | 0 | 0 | 0 | 0 | 0 | -151 | 170 | 383 | 307 | 646 |
| 2004 | 603 | 275 | 369 | 2660 | 1025 | 1416 | 0 | -539 | 0 | 0 | -5 | -273 | 0 | 350 | 525 |
| 2005 | 798 | 253 | 0 | 0 | 504 | 161 | -121 | 0 | 0 | 0 | 0 | -72 | 0 | 500 | 174 |
| 2006 | 1399 | 326 | 455 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -63 | -256 | -177 | 693 | 218 |
| 2007 | 1313 | 195 | 595 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -122 | -198 | 20 | 1008 | 243 |
| 2008 | 973 | 330 | 1074 | 1346 | 1248 | 181 | -487 | 175 | 0 | 0 | 0 | 0 | 0 | 946 | 491 |
| Averag | 821 | 352 | 652 | 916 | 681 | 495 | 68 | 113 | 17 | 71 | -47 | -30 | 2 | 408 | 369 |
| Median | 875 | 313 | 418 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 404 | 242 |

Table 2.11.2
4(h)(10)(C) Power Purchase Amounts
Fiscal Year 2015
Energy in Average Megawatts

| | Oct | Nov | Dec | Jan | Feb | Mar | Ap1 | Ap2 | May | Jun | Jul | Ag1 | Ag2 | Sep | Avg |
|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|------|
| 1929 | 1097 | 357 | 1384 | 2030 | 1561 | 1596 | 861 | -56 | 466 | 0 | 645 | -133 | -63 | 907 | 862 |
| 1930 | 1113 | 297 | 1385 | 2884 | 1208 | 1335 | 4 | 0 | 63 | 2334 | 0 | 52 | -58 | 314 | 910 |
| 1931 | 690 | 140 | 1720 | 3858 | 2331 | 1505 | 256 | 1070 | -121 | 856 | 0 | 0 | 348 | 904 | 1055 |
| 1932 | 494 | 493 | 1504 | 3665 | 3242 | 257 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 627 | 844 |
| 1933 | 1017 | 1041 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 728 | 232 |
| 1934 | 259 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -596 | -5 | 72 | 0 | 645 | 29 |
| 1935 | 510 | 1373 | 359 | 153 | 0 | 0 | 0 | 1187 | 0 | 0 | 0 | 0 | 0 | 1400 | 363 |
| 1936 | 1197 | 446 | 1334 | 2524 | 2233 | 1322 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1305 | 857 |
| 1937 | 1227 | 61 | 1220 | 2679 | 2736 | 1594 | 286 | 959 | -87 | 278 | -240 | -345 | -135 | 762 | 874 |
| 1938 | 653 | 993 | -134 | 435 | 0 | 0 | 0 | 0 | 0 | 0 | -303 | -143 | -127 | 831 | 194 |
| 1939 | 955 | 560 | 1513 | 1075 | 836 | 847 | 0 | 0 | 0 | 301 | 0 | 1 | 0 | 1117 | 600 |
| 1940 | 757 | 0 | 0 | 875 | 1983 | 0 | 0 | 0 | 0 | 182 | 0 | 377 | 45 | 456 | 361 |
| 1941 | 511 | 639 | 570 | 2783 | 1065 | 991 | 499 | 0 | 0 | 297 | 0 | 0 | 0 | 1057 | 678 |
| 1942 | 344 | 0 | 0 | 39 | 733 | 1462 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -618 | 162 |
| 1943 | 536 | 1226 | 490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1221 | 288 |
| 1944 | 1430 | 432 | 1471 | 1878 | 1497 | 1657 | 833 | 0 | 886 | 2402 | 0 | 0 | 208 | 1515 | 1138 |
| 1945 | 352 | 79 | 1983 | 3209 | 2826 | 1578 | -143 | 1274 | 0 | 0 | -118 | -1035 | -641 | 68 | 800 |
| 1946 | 820 | 640 | 173 | 513 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 715 | 239 |
| 1947 | 1444 | 370 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 846 | 223 |
| 1948 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1949 | 1030 | 481 | 402 | 0 | 443 | 0 | 0 | 0 | 0 | 0 | -394 | -216 | -287 | 613 | 191 |
| 1950 | 904 | 634 | 393 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 659 | 216 |
| 1951 | 376 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 690 | 89 |
| 1952 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1489 | 122 |
| 1953 | 1394 | 677 | 1277 | 283 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 834 | 375 |
| 1954 | 1142 | 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 111 |
| 1955 | 998 | 0 | 0 | 1096 | 912 | 716 | -199 | 0 | 0 | 0 | 0 | 0 | 0 | 1082 | 389 |
| 1956 | 881 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 841 | 144 |
| 1957 | 909 | 540 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -29 | -82 | 940 | 194 |
| 1958 | 1154 | 282 | 829 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -125 | -174 | 0 | 952 | 252 |
| 1959 | 908 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 77 |
| 1960 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -279 | 0 | 0 | 1144 | 70 |
| 1961 | 1030 | 491 | 111 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -346 | -212 | 0 | 1049 | 185 |
| 1962 | 1254 | 374 | 832 | 0 | 0 | 844 | 0 | 0 | 0 | 0 | -28 | 0 | 0 | 1275 | 382 |
| 1963 | 577 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 625 | 100 |
| 1964 | 1290 | 800 | 237 | 688 | 752 | 339 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 340 |
| 1965 | 263 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1094 | 112 |
| 1966 | 831 | 0 | 0 | 0 | 0 | 806 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 961 | 218 |
| 1967 | 1212 | 655 | 0 | 0 | 0 | 0 | 0 | 726 | 0 | 0 | 0 | 0 | 0 | 722 | 246 |
| 1968 | 1034 | 0 | 0 | 0 | 0 | 0 | 0 | -398 | 0 | 0 | 0 | 0 | 0 | 0 | 71 |
| 1969 | 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -216 | 0 | 0 | 893 | 62 |

Table 2.11.2 - continued
4(h)(10)(C) Power Purchase Amounts
Fiscal Year 2015
Energy in Average Megawatts

| | Oct | Nov | Dec | Jan | Feb | Mar | Ap1 | Ap2 | May | Jun | Jul | Ag1 | Ag2 | Sep | Avg |
|---------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 1970 | 1159 | 162 | 954 | 0 | 0 | 0 | 0 | -441 | 0 | 0 | 0 | -172 | 0 | 1115 | 259 |
| 1971 | 1276 | 548 | 642 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 88 | 215 |
| 1972 | 862 | 355 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 102 |
| 1973 | 882 | 212 | 0 | 0 | 257 | 1160 | 1731 | -198 | 0 | 581 | -123 | 37 | 279 | 462 | 363 |
| 1974 | 647 | 1091 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 145 |
| 1975 | 1446 | 371 | 605 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 223 |
| 1976 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1977 | 787 | 247 | 1315 | 1915 | 1130 | 1168 | 1205 | -53 | 981 | 3214 | 0 | -244 | 210 | 1639 | 1076 |
| 1978 | 951 | 657 | -156 | 0 | 0 | 907 | 0 | 0 | 0 | 0 | 0 | -88 | 0 | 0 | 195 |
| 1979 | 392 | 609 | 926 | 946 | 712 | 0 | 0 | 420 | 0 | -80 | 175 | 126 | -41 | 420 | 360 |
| 1980 | 834 | 679 | 1651 | 1751 | 364 | 1486 | 0 | 0 | 0 | 0 | -369 | -277 | -271 | 352 | 544 |
| 1981 | 891 | 357 | 0 | 0 | 0 | 0 | -669 | 0 | 0 | 0 | 0 | 0 | 0 | 202 | 94 |
| 1982 | 1159 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 98 |
| 1983 | 180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 81 | 22 |
| 1984 | 1039 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 400 | 121 |
| 1985 | 1058 | 15 | 0 | 202 | 132 | -5 | 0 | 0 | 0 | 0 | 368 | 664 | 179 | 687 | 241 |
| 1986 | 17 | 0 | 296 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -190 | 0 | 0 | 1077 | 99 |
| 1987 | 1370 | 607 | 0 | 609 | 959 | -311 | 0 | 0 | 0 | -292 | -92 | 197 | -80 | 760 | 300 |
| 1988 | 909 | 807 | 2005 | 3471 | 2143 | 1714 | -202 | 924 | -162 | 870 | -281 | -201 | -116 | 943 | 1046 |
| 1989 | 766 | 848 | 257 | 2716 | 1727 | 319 | 0 | 0 | 0 | -593 | -25 | 2 | 0 | 633 | 548 |
| 1990 | 948 | 252 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1108 | 192 |
| 1991 | 1582 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 974 | 214 |
| 1992 | 1398 | 429 | 1093 | 1051 | 1150 | 41 | -429 | -148 | 0 | 1256 | 0 | 519 | 73 | 603 | 581 |
| 1993 | 519 | 290 | 1435 | 3717 | 2235 | 298 | -5 | -84 | 0 | 0 | 0 | -402 | 0 | 504 | 723 |
| 1994 | 1021 | 82 | 1044 | 3306 | 1158 | 1724 | 0 | 1116 | 0 | -266 | 0 | -117 | -133 | 399 | 744 |
| 1995 | 810 | 1078 | 650 | 2233 | 0 | 0 | 0 | 1253 | 0 | 0 | 0 | 0 | 0 | 694 | 511 |
| 1996 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1096 | 90 |
| 1997 | 1246 | 142 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 117 |
| 1998 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1016 | 84 |
| 1999 | 1285 | 991 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 191 |
| 2000 | 987 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -208 | 1167 | 171 |
| 2001 | 1210 | 370 | 1368 | 1902 | 1434 | 1327 | 1017 | 0 | 133 | 3629 | -3 | -285 | -68 | 2025 | 1136 |
| 2002 | 1067 | 538 | 803 | 1577 | 1117 | 1894 | 0 | 0 | 0 | 0 | 0 | -363 | 0 | 926 | 645 |
| 2003 | 1491 | 0 | 1224 | 2139 | 1601 | 0 | 0 | 0 | 0 | 0 | -137 | 462 | 201 | 818 | 618 |
| 2004 | 580 | 360 | -228 | 2129 | 1611 | 293 | 0 | 262 | 0 | 0 | -5 | -36 | 0 | 0 | 398 |
| 2005 | 933 | 262 | 0 | 0 | 0 | -88 | -121 | 0 | 0 | 0 | 0 | -72 | 0 | 982 | 166 |
| 2006 | 988 | 334 | 232 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -63 | -256 | -177 | 1203 | 206 |
| 2007 | 1669 | 0 | 226 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -122 | -198 | -238 | 1576 | 262 |
| 2008 | 908 | 402 | 464 | 1199 | 858 | 146 | -487 | 398 | 0 | 0 | 0 | 0 | 0 | 1098 | 416 |
| Averag | 850 | 342 | 448 | 769 | 537 | 362 | 55 | 103 | 27 | 180 | -28 | -31 | -15 | 699 | 352 |
| Median | 909 | 294 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 744 | 227 |

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| | | |
|------|---|-----|
| 2.12 | Federal Tier 1 System Firm Critical Output | 107 |
| | Table 2.12.1 Federal Tier 1 System Firm Critical Output Projection..... | 108 |
| | Table 2.12.2 Federal System Hydro Generation for T1SFCO Calculation ... | 109 |
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Table 2.12.1
Federal Tier 1 System Firm Critical Output Projection - 2-Year Average
PNW Loads and Resource Study
2014-2015 Fiscal Years
103 - 2014 Initial Rate Case 10-29-2012

| 1. | T1SFCO Projections Energy in aMW | 2014 | 2015 | Average |
|-----------|---|--------------|--------------|----------------|
| 2. | Total Federal System Hydro Generation (Table 2.12.2) | 6,924 | 6,799 | 6,862 |
| 3. | Total Designated Non-Federally Owned Resources (Table 2.12.3) | 1,098 | 946 | 1,022 |
| 4. | Total Designated BPA Contract Purchases (Table 2.12.4) | 204 | 187 | 195 |
| 5. | Total Designated System Obligations (Table 3.12.5) | -1,029 | -1,012 | -1,021 |
| 6. | <i>Federal Tier 1 System Firm Critical Output</i> | 7,197 | 6,920 | 7,058 |

Table 2.12.2
Federal System Hydro Generation for use in the T1SFCO Calculation
Corresponds with TRM Table 3.1
PNW Loads and Resources Study
2014-2015 Fiscal Years
103 - 2014 Initial Rate Case 10-29-2012

| 1. | Regulated Hydro | 2014 | 2015 | Average |
|------------|--|----------------|----------------|----------------|
| 2. | Albeni Falls | 25.0 | 25.1 | 25.1 |
| 3. | Bonneville Hydro | 404.9 | 394.5 | 399.7 |
| 4. | Chief Joseph Hydro | 1,143.1 | 1,112.4 | 1,127.7 |
| 5. | Dworshak Hydro | 142.7 | 142.7 | 142.7 |
| 6. | Grand Coulee Hydro | 1,989.0 | 1,937.6 | 1,963.3 |
| 7. | Hungry Horse | 83.8 | 83.8 | 83.8 |
| 8. | Ice Harbor Hydro | 154.7 | 154.7 | 154.7 |
| 9. | John Day Hydro | 818.1 | 804.1 | 811.1 |
| 10. | Libby | 182.1 | 182.1 | 182.1 |
| 11. | Little Goose Hydro | 175.9 | 175.9 | 175.9 |
| 12. | Lower Granite Hydro | 172.2 | 172.0 | 172.1 |
| 13. | Lower Monumental Hydro | 179.5 | 179.5 | 179.5 |
| 14. | Mc Nary Hydro | 487.9 | 479.4 | 483.6 |
| 15. | The Dalles Hydro | 611.9 | 602.0 | 606.9 |
| 16. | Independent Hydro | | | |
| 17. | Anderson Ranch | 12.2 | 12.2 | 12.2 |
| 18. | Big Cliff | 9.7 | 9.7 | 9.7 |
| 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 | 19.0 | 19.0 | 19.0 |
| 23. | Cowlitz Falls | 26.5 | 26.5 | 26.5 |
| 24. | Detroit | 33.8 | 33.8 | 33.8 |
| 25. | Dexter | 9.4 | 9.4 | 9.4 |
| 26. | Foster | 12.2 | 12.2 | 12.2 |
| 27. | Green Peter | 26.9 | 26.9 | 26.9 |
| 28. | Green Springs - USBR | 7.3 | 7.3 | 7.3 |
| 29. | Hills Creek | 18.0 | 18.0 | 18.0 |
| 30. | Idaho Falls - City Plant | 4.2 | 4.2 | 4.2 |
| 31. | Idaho Falls - Lower Plants #1 & #2 | 5.8 | 5.8 | 5.8 |
| 32. | Idaho Falls - Upper Plant | 4.2 | 4.2 | 4.2 |
| 33. | Lookout Point | 35.8 | 35.8 | 35.8 |
| 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 Federal System Hydro Generation | 6,924.0 | 6,799.2 | 6,861.6 |

Table 2.12.3
Designated Non-Federally Owned Resources for use in the T1SFCO Calculation
Corresponds with TRM Table 3.2
PNW Loads and Resources Study
2014-2015 Fiscal Years
103 - 2014 Initial Rate Case 10-29-2012

| 1. | Project | 2014 | 2015 | Average |
|------------|---|----------------|--------------|----------------|
| 2. | Ashland Solar Project | 0.0 | 0.0 | 0.0 |
| 3. | Columbia Generating Station | 1,030.0 | 877.6 | 953.8 |
| 4. | Condon Wind Project | 9.7 | 9.7 | 9.7 |
| 5. | Dworshak/Clearwater Small Hydropower | 2.6 | 2.6 | 2.6 |
| 6. | Foote Creek 1 | 4.0 | 4.0 | 4.0 |
| 7. | Foote Creek 2 | 0.5 | 0.5 | 0.5 |
| 8. | Foote Creek 4 | 4.4 | 4.4 | 4.4 |
| 9. | Fourmile Hill Geothermal (Not included) | 0.0 | 0.0 | 0.0 |
| 10. | Georgia-Pacific Paper (Wauna) | 19.2 | 19.2 | 19.2 |
| 11. | Klondike I | 6.8 | 6.8 | 6.8 |
| 12. | Stateline Wind Project | 20.7 | 20.7 | 20.7 |
| 13. | White Bluffs Solar | 0.0 | 0.0 | 0.0 |
| 14. | Total Designated Non-Federally Owned Resources | 1,098.0 | 945.5 | 1,021.7 |

Table 2.12.4
Designated BPA Contract Purchases for use in the T1SFCO Calculation
Corresponds with TRM Table 3.3
PNW Loads and Resources Study
2014-2015 Fiscal Years
103 - 2014 Initial Rate Case 10-29-2012

| 1. | Contract Purchases | Contract # | 2014 | 2015 | Average |
|------------|--|-------------------|--------------|--------------|----------------|
| 2. | Priest Rapids CER for Canada | 97PB-10099 | 29.2 | 29.2 | 29.2 |
| 3. | Rock Island #1 CER for Canada | 97PB-10102 | 17.7 | 17.7 | 17.7 |
| 5. | Rock Reach CER for Canada | 97PB-10103 | 37.4 | 37.2 | 37.3 |
| 6. | Wanapum CER for Canada | 97PB-10100 | 28.0 | 28.0 | 28.0 |
| 7. | Wells CER for Canada | 97PB-10101 | 24.0 | 23.7 | 23.9 |
| 8. | BCHP to BPA PwrS | 99PB-22685 | 1.0 | 1.0 | 1.0 |
| 9. | BCHP to BPA LCA | 99PB-22685 | 29.6 | 29.6 | 29.6 |
| 10. | PASA to BPA Pk Repl | 94BP-93658 | 1.1 | 0.0 | 0.6 |
| 11. | PASA to BPA S/N/X | 94BP-93658 | 2.5 | 2.1 | 2.3 |
| 12. | PASA to BPA Xchg Nrg | 94BP-93658 | 1.9 | 1.6 | 1.7 |
| 13. | RVSD to BPA Pk Repl | 94BP-93958 | 5.0 | 5.0 | 5.0 |
| 14. | RVSD to BPA Seas Xchg | 94BP-93958 | 4.2 | 4.2 | 4.2 |
| 15. | RVSD to BPA Xchg Nrg | 94BP-93958 | 7.3 | 7.3 | 7.3 |
| 16. | PPL to BPA SNX (Spring Return) | 94BP-94332 | 0.0 | 0.0 | 0.0 |
| 17. | PPL to BPA SPX (Summer Return) | 94BP-94332 | 15.3 | 0.0 | 7.7 |
| 18. | Total Designated BPA Contract Purchases | | 204.3 | 186.7 | 195.5 |

Table 2.12.5
Designated BPA System Obligations for use in the T1SFCO Calculation
Corresponds with TRM Table 3.4
PNW Loads and Resources Study
2014-2015 Fiscal Years
103 - 2014 Initial Rate Case 10-29-2012

| 1. | System Obligation | Contract # | 2014 | 2015 | Average |
|------------|---|------------------------------|----------------|----------------|----------------|
| 2. | BPA to BRCJ Chief Joseph | 14-03-17506; 14-03-49151 | 7.4 | 7.4 | 7.4 |
| 3. | BPA to BRCB Columbia Basin Project | lbp-4512; 14-03-001-12160 | 137.5 | 137.5 | 137.5 |
| 4. | BPA to BRCR Crooked River Project | 14-03-73152 | 1.1 | 1.1 | 1.1 |
| 5. | BPA to BROP Owyhee Project | EW-78-Y-83-00019 | 3.4 | 3.4 | 3.4 |
| 6. | BPA to BRRP Rathdrum Prairie Project | 14-03-49151 | 0.7 | 0.7 | 0.7 |
| 7. | BPA to BRSID Southern Idaho Projects | EW-78-Y-83-00019 | 19.6 | 19.6 | 19.6 |
| 8. | BPA to BRSIN Spokane Indian Develop. | 14-03-49151 | 0.3 | 0.3 | 0.3 |
| 9. | BPA to BRSV Spokane Valley | 14-03-63656 | 0.7 | 0.7 | 0.7 |
| 10. | BPA to BRTD The Dallas Reclamation Pro | 14-03-32210 | 2.1 | 2.1 | 2.1 |
| 11. | BPA to BRTV Tualatin Project | 14-03-49151 | 0.7 | 0.7 | 0.7 |
| 12. | BPA to BRUB Umatilla Basin Project | 10GS-75345 | 1.2 | 1.2 | 1.2 |
| 13. | BPA to BRYK Yakima Project | DE-MS79-88BP92591 | 1.7 | 1.7 | 1.7 |
| 14. | BPA to BCHP LCA | 99PB-22685 | 39.5 | 39.5 | 39.5 |
| 15. | BPA to BCHA Can Ent | 99EO-40003 | 484.2 | 465.0 | 474.6 |
| 16. | BPA to BCHA NTSA | 12PG-10002 | 14.4 | 14.2 | 14.3 |
| 17. | BPA to BHEC 2012PSC | 97PB-10051 | 7.6 | 7.6 | 7.6 |
| 18. | BPA to PASA C/N/X | 94BP-93658 | 1.1 | 0.0 | 0.6 |
| 19. | BPA to PASA S/N/X | 94BP-93658 | 2.5 | 2.5 | 2.5 |
| 20. | BPA to RVSD C/N/X | 94BP-93958 | 5.0 | 5.0 | 5.0 |
| 21. | BPA to RVSD Seas Xchg | 94BP-93958 | 4.3 | 4.3 | 4.3 |
| 22. | Federal Intertie Losses (Calculated: 3.0% of Intertie Sales Table 2.12.5 lines 18-21) | n/a | 0.4 | 0.4 | 0.4 |
| 23. | BPA to AVWP WP3 S | 85BP-92186 | 41.7 | 41.7 | 41.7 |
| 24. | BPA to PPL SNX (Spring Delivery) | 94BP-94332 | 0.0 | 0.0 | 0.0 |
| 25. | BPA to PPL SPX (Summer Delivery) | 94BP-94332 | 0.0 | 0.0 | 0.0 |
| 26. | BPA to PSE WP3 S | 85BP-92185 | 41.7 | 41.7 | 41.7 |
| 27. | BPA to PSE Upper Baker 2 | 09PB-12126 | 1.3 | 1.3 | 1.3 |
| 28. | BPAP to BPAT (Dittmer/Substation Service) | 09PB-12128 | 9.0 | 9.0 | 9.0 |
| 29. | Federal Power Trans. Losses | n/a | 237.5 | 239.0 | 238.2 |
| 30. | Slice Transmission Loss Returns | n/a | -36.6 | -35.2 | -35.9 |
| 31. | Total Designated System Obligations | | 1,029.5 | 1,011.8 | 1,020.6 |

3. HYDRO REGULATION ASSUMPTIONS113
3.1 HYDSIM Hydro Regulation Study Assumptions for 2014 and 2015114

STUDY NUMBER: 12_RateCase14_initial & 12_RateCase15_initial

Requested By: BPA Rates Process

Due Date: July 31, 2012

Purpose of Study: This is an 80-year continuous study of the system operation for the initial proposal WP-12 Rate Case for FY 2014 and FY 2015.

Study Directories: **DOP Step:** Q:\RATES\12_RateCase14_initial\DOP14 &
Q:\RATES\12_RateCase15_initial\DOP15

AER Step: Q:\RATES\12_RateCase14_initial\AER &
Q:\RATES\12_RateCase15_initial\AER

OPER Step: Q:\RATES\12_RateCase14_initial\OPERfinal &
Q:\RATES\12_RateCase15_initial\OPERfinal

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) 2014 (October 2013 through September 2014) and one for FY 2015 (October 2014 through September 2015). For simplicity the two studies are often referred to as ‘the study’ and each step is often referred to as a singular step. However, in reality there are two surrogate DOP studies, an AER step for each one, and an OPER step for each one, and these are collectively referred to as the HYDSIM study for the Rate Case.

DOP

- This Step is used to determine the Canadian Treaty project elevations following procedures from the Columbia River Treaty.
- Since the official Detailed Operating Plans (DOP) 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 DOP studies start with the official Assured Operating Plans (AOP): AOP14 and AOP15 studies. 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 updates include plant data from the 2012 PNCA data submittal, 80-year 2010-level Modified Streamflow data, and the most recent flood control data provided by the Corps of Engineers.
- The 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 2012 operating year (OY12) Firm Energy Load Carrying Capability (FELCC) and unlimited secondary market. Minimum elevations from the AER Step are input into the Operational Step.

- This is a **continuous** 80-year study based on the OY12 PNCA data submittal.
- The Coordinated System generation does not include the Tacoma 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 stream flows are made in this study according to the Bureau of Reclamation’s updated **Grand Coulee pumping schedule** for the Columbia Basin Project in their February 1, 2012, preliminary PNCA data submittal for OY13 (since OY12 has unusual canal maintenance scheduled in March).
- **Plant Data** are from the PNCA plant data for operating year 2012 (OY12) for all projects.
- **Loads** are from the FELCC OY12 Critical Period study run by the Northwest Power Pool (NWPP) for the PNCA. The NWPP study has a one-year critical period (August 16, 1936 through March 31, 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) are not used to meet PNCA FELCC in these studies. Also, in this study the generation from Tacoma projects is not included 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 OY12 data.
- **Initial Contents** for all projects came from the September 30, 1929, storage ending content from the final Rates study for 2007 (Q:\RATES\06\04RATE_07), except Mica, Arrow, Duncan projects are initialized to the content from the surrogate DOP studies. (Q:\TREATY\DOP14\TSR80_FCST_oy13gelpump and Q:\TREATY\DOP15\TSR80_FCST). The initial conditions do not significantly affect the study results since this is a continuous study.
- **Critical Rule Curves (CRC)** are in accordance with PNCA 2012 adopted system critical rule curves where the 1st year critical rule curve = OY12 CRC1; 2nd year = empty; 3rd year = empty; and 4th year = empty.
- **Flood Control Rule Curves**, also known as Upper Rule Curves (URC), are the highest contents allowed for each reservoir and supersede all other reservoir elevation and content operating objectives. The curves are based on: forecasts (not actuals); no shift to Grand Coulee; 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 April 2010 for 1929-1998. The 1999-2008 flood control data were provided by the Corps of Engineers on January 2012. These flood control curves include the variable flood control in December at Libby, BC Hydro’s updated storage reservation diagram for Duncan, a 1600 cfs minimum flow at Dworshak. (The unit ‘cfs’ is a common measure of flow, cubic feet per second.) The Mica, Arrow, and Duncan flood control requirements are from the TSR DOP14 study. (The Corps of Engineers provided flood control data for 1929-98 on July 2010 and 1999-2008 on Jan 2012 for DOP14 study). The flood control curves for 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. BPA adjusts the flood control curves to shift some of Dworshak’s requirement to Grand Coulee when possible.
- **Variable Energy Content Curves (VECCs)** are calculated using OY12 Power Discharge Requirements (PDR’s), distribution factors, and forecast errors, which are used in PNCA planning. The Grand Coulee ECC lower limits are 1225 feet (420.5 ksf) January through April 30 and 1240 feet (843.9 ksf) in May. (The unit ‘ksf’ is a volume of water equal to 1000 cfs for 1 day.) The Canadian projects’ TSR DOP14 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 only. The VECCs for the Federal projects are based on the 80-year volume forecasts.

Project Specific Data:

- **Mica, Duncan, and Arrow** are fixed to the 80-year surrogate DOP14 and DOP15 studies run by BPA on February 9 and February 23, 2012, respectively, specifically for the BP-14 Rate Case. Mica data logic in the HYDSIM program is turned off. Mica’s minimum storage content is reset to 0.0 ksf so that drafting below 2295.9 ksf (normal minimum content) can occur.
- **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, 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 June through September. Libby can be drafted to meet FELCC September through 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 KAF, the flood control at Libby in December is 2426.6 feet (1804.7 ksf), When the forecast is greater than 5900 KAF, the flood control in December is 2411.0 feet (1502.2 ksf). The flood control data is interpolated between 1804.7 ksf and 1502.2 ksf when the forecast is between 5500 and 5900 KAF. Libby does violate the flood control URC at times for Corra Linn’s IJC operation. Otherwise, the drafting for flood control space at Libby would actually cause downstream flooding near Corra Linn. 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 BiOp’s April 10 objective). During May 1 through June 30 Libby operates for Sturgeon and during May 15 through September 30 it operates for Bull Trout. Sturgeon and Bull Trout flow requirements May through July are based on May 1 April-August Kuehl-Moffit forecast at Libby and are summarized as follows from the PNCA OY12 Corps of Engineers Data Submittal based on the USFWS BiOp dated February 18, 2006.

| <u>Libby May1 Apr-Aug Forecast Volume (MAF)</u> | <u>Sturgeon Flow Volume 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 Forecast Interval (MAF)</u> | <u>Bull Trout Minimum Flow May15-Sep30 (KCFS)</u> |
|---|---|
| <4800 | 6.0 |
| 4800-6000 | 7.0 |
| 6000-6700 | 8.0 |
| >6700 | 9.0 |

Libby can draft below the 2,439 feet (2061.3 ksf) draft limit to meet the Bull Trout flow objective. In years when the May-1 April through August volume forecast for The Dalles is less than 71.8 million acre feet (MAF), which is the lowest 20th percentile, the project attempts to operate along a computed straight line between June 30 content and a September 30 draft limit of 2439.0 feet (2061.3 ksf) during July and August to minimize occurrences of a second peak flow in the summer. In years when the forecast is greater than or equal to 71.8 MAF the

September 30 draft limit is 2449 feet (2280.3 ksf). However, due to minimum flow for sturgeon and bull trout, the project often operates below the computed straight line.

- **Hungry Horse** operates to meet the following minimum flow requirements at the project and at Columbia Falls as shown in the PNCA 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 3549.2 feet (1377.7 ksf) for winter flood control and Chum flow in December. However, due to the minimum flow requirement at Columbia Falls, Hungry Horse often operates below 3549.2 feet in December. From January through March, Hungry Horse operates between the fish VECC (aka Variable Draft limit to assure 75% 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 fish VECCs 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 lower of 3545 feet (1330.2 ksf) or VarQ flood control upper rule curve in April. In May-June, Hungry Horse operates on flood control when possible but drafts below flood control to meet minimum flows when necessary. In years when the May 1 April-August volume forecast for The Dalles is less than 71.8 MAF (20th percentile), the project operates along the computed straight line between June 30 content and a September 30 draft limit of 3540.0 feet (1275.0 ksf) during July and August to minimize occurrences of a second peak flow in the summer. In years when the July 1 January-July volume forecast for The Dalles is greater than or equal to 71.8 MAF (20th percentile), the project operates along the computed straight line between June 30 content and a September 30 draft limit of 3550.0 feet (1386.7 ksf) during July and August to minimize occurrences of a second peak flow in the summer. The maximum discharge at Hungry Horse is 9,000 cfs during September through April 1-15, and 11,956 cfs in April 16-30 through August 31, unless the URC causes more discharge.

- **Albeni Falls** operates at 2062 feet (559.1 ksf) from June through August, 2061.5 feet (535.7 ksf) in September, 2056 feet (279.0 ksf) in October, 2055 feet (234.7 ksf) November through March, 2056 feet (279.0 ksf) in April, and 2060 feet (465.7 ksf) in May.
- **Grand Coulee** operates to meet FELCC September through December subject to the draft limits of 1283 feet (2332.2 ksf) in September and October, 1275 feet (2026.8 ksf) in November, and 1270 feet (1843.0 ksf) in December. January through March, Coulee can be drafted to the higher of winter draft limits [1260 feet (1492.2 ksf), 1250 feet (1155.8 ksf), 1240 feet (843.7 ksf), respectively] or the Biological Rule Curve (fish VECC). The fish VECC reflects the expected April 10th URC and storage needed for the appropriate Vernita Bar minimum flow requirement. Grand Coulee is then operated to these minimum storage points. The fish VECCs are calculated using assumed inflows which are exceeded 85 percent of the time, perfect foreknowledge of the minimum outflow, and the requirement to be at VARQ flood control elevation on April 10. On April 15, Coulee operates on flood control. From April 30 through May, Grand Coulee may be drafted to the lower of flood control or 1280 feet (2215.5 ksf) to support Priest Rapids and McNary flow augmentation targets. In June, Grand Coulee operates to 1288 feet (2532.0 ksf) or flood control elevations. In July, Grand Coulee has a draft limit of 1285 feet (2411.4 ksf) to support Priest Rapids and McNary flow augmentation targets. In August 1-15, the draft limit for BIOP flow augmentation is 1280 feet (2215.5 ksf) if July 1 April-August runoff at The Dalles is less than 92 MAF; otherwise the draft limit is 1282 feet (2293.5 ksf). In August 16-31, the draft limit is 1278 feet (2139.8 ksf) if the July 1 forecast

April through August volume runoff at The Dalles is less than 92 MAF, otherwise the draft limit is 1280 feet (2215.5 ksf). 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 Coulee is above 1260 feet, 1.3 feet per day when Coulee between 1260 and 1240 feet, and 1.0 feet per day when Coulee is below 1240 feet. 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 a) 68 percent of the largest of the October or November flow at Wanapum or b) 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.
- **Brownlee** operates to the 70-yr rule curves provided to BPA from the Northwest Power Pool on March 15, 2007. They are 432.1 ksf in Au1, 380.7 ksf in Au2, 293.8 ksf in Sep, 491.7 ksf in Nov, 436.3 ksf in Dec, 385.4 ksf in Jan, 484.7 ksf in Jun and Jul. The rule curves vary between 226.0 ksf, 113.2 ksf, 62.9 ksf, 0.0 ksf and 74.7 ksf to full content of 491.7 ksf in Oct, Feb, Mar, Ap1, Ap2 and May, respectively.
- **Dworshak** is on minimum flow of 1500 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-- the maximum flow is 25,000 cfs for flood control operations. 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 ksf) June 30, 1570 feet (756 ksf) July 31, 1554 feet (631 ksf) August 15, and 1535 feet (497.0 ksf) August 31. Dworshak is drafted to 1520 feet (395.8 ksf) on September 30.
- **Lower Snake projects operate at MOP** in accordance with the PNCA data submittal. As identified in the 2008 BiOp, the Corps operates Little Goose, Lower Monumental, and Ice Harbor within one foot of minimum operating pool (MOP) during the period from approximately April 3 through August 31. Lower Granite operates within one foot of MOP from approximately April 3 through November 15 (Ap1-Oct in HYDSIM modeling). MOP for Lower Granite, Little Goose, Lower Monumental and Ice Harbor is elevation 733 (225.0 ksf), 633 (260.5 ksf), 537 (180.5 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 elevation 738 (245.8 ksf), 638 (285.1 ksf), 540 (190.1 ksf) and 440 feet (204.8 ksf), respectively.
- **Turbine operations** at the four lower Snake River projects (Lower Granite, Little Goose, Lower Monumental and Ice Harbor) and the four lower Columbia River projects (McNary, John Day, The Dalles and Bonneville) are within **1 percent of peak efficiency** March through November. This requirement is reflected in the HYDSIM hydro availability file.
- **Spill for Fish Passage** is included at the eight federal mainstem projects (Lower Granite, Little Goose, Lower Monumental, Ice Harbor, McNary, John Day, The Dalles and Bonneville) based on the OY10 PNCA data, summarized below. The spill is limited at times by 120% TDG Gas Caps (shown in table at end of this document) and minimum turbine flow requirements (shown in the following table).

- **Juvenile Passage Spill and Total Dissolved Gas Caps from OY12 PNCA Planning**

| SPILL CRITERIA FOR PNCA OY2012 (Feb 1, 2011 Submittal Table 9, A-23) | | | | | |
|--|---|---|-----------------------------------|--|--|
| | Spill | Min Turb | Days | Hour Ending | Notes |
| Lower Granite | 20 kcfs 18 kcfs | 11.5 kcfs | Apr 3 - May31; Jun 1 - Aug 15 | All hours | Gas Cap: Ap1-Ap2: 30 kcfs; May 28 kcfs; June 30 kcfs; Jul- Au1: 28 kcfs |
| Little Goose | 30% flow | 11.5 kcfs Min Turbine; 8.4 kcfs Min Spill | Apr 5 - May 31, Jun 1 - Aug 15 | All hours | Gas Cap: Ap1-Ap2: 30 kcfs; May 28 kcfs; June 30 kcfs; Jul- Au1: 28 kcfs |
| Lower Monumental | gas cap; 17 kcfs | 11.5 kcfs | Apr 7 - May 31, Jun 1 - Aug 15 | All hours | Gas cap: Ap1: 26 kcfs; Ap2: 25 kcfs; May 22 kcfs; Jun 19 kcfs; Jul-Au1: 24 kcfs |
| Ice Harbor | 30% flow vs 45 kcfs day/gas cap night | 9.5 kcfs | Apr 7 - Aug 17 | All hours 13 hrs day/ 11 hrs night | |
| McNary | 40% flow | 50 kcfs | April 10 - Jun 15 | All hours | Gas Cap: Ap1-Ap2: 117 kcfs; May 122 kcfs; Jun 125 kcfs ; Jul 138 kcfs; Au1-Au2: 148 kcfs |
| | 50% flow | | Jun 16 - Aug 31 | All hours | |
| John Day | 30% vs 40% flow | 50 kcfs Min Turbine; | Apr 10 - Jun 15 | All hours | Gas Cap: Ap1: 96 kcfs; Ap2: 90 kcfs; May-Jul 95 kcfs; Au1- Au2: 98 kcfs |
| | 30% vs 40% flow | 25% min spill | Jun 16 - Aug 31 | | |
| The Dalles | 40% flow | 50 kcfs | Apr 10 - Aug 31 | All hours | Gas Cap: Ap1: 124 kcfs; Ap2: 131 kcfs; May 132; Jun 137; Jul 139 kcfs; Au1-Au2: 125 kcfs |
| Bonneville | lower of gas cap or 100 kcfs | 30 kcfs Min Turbine: 50 kcfs Min Spill | Apr 10 - Jun 15 | All hours | Gas Cap: Ap1: 106 kcfs; Ap2: 108 kcfs; May: 109 kcfs; Jun: 98 kcfs; Jul: 111 kcfs; Aug1: 116 kcfs; Aug2: 120 kcfs |
| | 95 kcfs | | Jun 16 - Aug 31 | 18 hrs Day/ 6 hrs night | |
| | | | Aug 1 - Aug 31 | 16 hrs Day/ 8 hrs night | |

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 (2027.1 ksfd) in November and 1270 feet (1843.4 ksfd) 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 through 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.

Dworshak drafts to meet this flow objective, subject to draft limits.

- **John Day** is operated at 262.5 feet (127.8 ksf) from April through September. From October through March, John Day operates to elevation 265 feet (191.0 ksf).
- **The Dalles** is modeled as a reservoir instead of a run-of-river project to eliminate a minor programming bug in HYDSIM's energy calculation. The new reservoir input data come from PNCA OY12.
- **Bonneville** second powerhouse corner collector is modeled as "other spill" in HYDSIM, using the "other spill" data from PNCA OY12.
- **Spill at non-Federal projects** is summarized below from OY12 PNCA 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 12 through August 26.

PROJECT SPILL FOR FISH IN
PERCENT OF REGULATED FLOW (%) or CFS

| PROJECTS: | Apr1 | Apr2 | May | Jun | Jul | Aug1 | Aug2 |
|--------------------|--------|--------|--------|--------|--------|--------|--------|
| Wells (%) | 1.7 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 4.5 |
| Rocky Reach (%) | 0.0 | 0.0 | 0.0 | 6.3 | 9.0 | 9.0 | 2.8 |
| Rock Island (%) | 0.0 | 8.7 | 10.0 | 18.7 | 20.0 | 20.0 | 6.3 |
| Wanapum (cfs) | 22,000 | 22,000 | 22,000 | 22,000 | 22,000 | 22,000 | 13,000 |
| Priest Rapids(cfs) | 29,800 | 29,800 | 29,800 | 29,800 | 29,800 | 29,800 | 29,800 |

- **Kootenay Lake** is operated as necessary, up to free flow, to maintain the lake level below the IJC rule curve and the calculated "allowable elevation at Queens Bay". This is implemented using the 5-step method developed by BPA and the Corps. 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 elevation 1743.32 feet.

OPER STEP

- All AER step criteria apply unless specifically amended below.
- Loads in the OPER step are the 2014 and 2015 Coordinated System firm residual hydro loads from BPA's 2012 LORA Study 80 on June 19, 2012. These residual hydro loads are the total coordinated system firm load less all the other firm non-hydro resources. A variable secondary market limit based on an AURORA market analyses is also included in every period 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. The Coordinated System independent hydro generation from LORA Study 80 is also used in this study to develop the residual hydro load.
- **Availability Factors** are used in HYDSIM to simulate unit outages and units held for reserve requirements. Unit outages are based on data provided by PGF. The availability factors are calculated from the 5-year average of 2007-2011 actual outages for all federal projects except Grand Coulee and Chief Joseph. Chief Joseph availability factors are based on the 2-year average of 2010-2011 actual outages. Grand Coulee availability factors are based on the 2-year average of 2010-2011 and then further reduced due to large planned outages. The estimates for Grand Coulee availability factors reflect the high levels of outages that are expected during the

rate period for runner replacements, major overhaul work, and replacement of governors, exciters, transformers, and high-voltage power lines. The Grand Coulee availability factors generally assume two large 805-MW units out of service at all times during the rate period. The following table shows availability factors after considering these outage assumptions.

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|------------------|-----|-----|------|-----|-----|------|------|-----|------|------|------|-----|
| Libby | 78% | 94% | 100% | 83% | 84% | 78% | 80% | 96% | 100% | 98% | 78% | 82% |
| Hungry Horse | 73% | 77% | 80% | 82% | 80% | 67% | 75% | 83% | 91% | 91% | 87% | 73% |
| Albeni Falls | 95% | 98% | 92% | 90% | 89% | 93% | 93% | 92% | 93% | 93% | 83% | 91% |
| Dworshak | 58% | 59% | 77% | 98% | 99% | 100% | 100% | 96% | 94% | 100% | 100% | 85% |
| Grand Coulee | 65% | 70% | 66% | 69% | 70% | 63% | 67% | 68% | 67% | 62% | 55% | 60% |
| Chief Joseph | 76% | 82% | 94% | 94% | 95% | 92% | 94% | 89% | 89% | 87% | 96% | 87% |
| Lower Granite | 62% | 58% | 67% | 71% | 83% | 82% | 82% | 86% | 89% | 76% | 52% | 59% |
| Little Goose | 78% | 81% | 87% | 88% | 82% | 81% | 86% | 87% | 92% | 85% | 66% | 75% |
| Lower Monumental | 74% | 80% | 80% | 86% | 93% | 90% | 99% | 99% | 99% | 87% | 79% | 82% |
| Ice Harbor | 72% | 73% | 82% | 79% | 86% | 87% | 91% | 90% | 97% | 80% | 71% | 75% |
| McNary | 81% | 83% | 87% | 90% | 91% | 93% | 94% | 95% | 96% | 79% | 77% | 74% |
| John Day | 82% | 85% | 84% | 88% | 90% | 85% | 85% | 92% | 92% | 91% | 85% | 85% |
| The Dalles | 89% | 88% | 92% | 89% | 90% | 89% | 87% | 92% | 93% | 90% | 84% | 88% |
| Bonneville | 74% | 74% | 74% | 78% | 78% | 80% | 83% | 83% | 83% | 78% | 73% | 74% |

- The availability factors are also used to reflect reserve requirements because HYDSIM has no other mechanism to account for *inc* reserves. 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 89 percent of the estimated 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 reserve requirements of 800-900 MW are also included in the availability factors and are consistent with the estimates provided by Transmission staff assuming the 99.5% level and self supply. These reserve assumptions do not exactly match the final decisions in the rate case proposal, because those final decisions are not available in time for incorporation in the HYDSIM studies and would not have a significant effect on HYDSIM's month-average generation estimates.
- **Initial Contents** for the major federal projects are based on the 70-yr average of September 30 storage ending content from the 08RateCase10_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 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. 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 error can cause projects to miss this refill objective. The objective is for Grand Coulee to operate with an 85 percent chance of reaching this April 10 elevation and for Libby and Hungry Horse to operate with a 75 percent chance. This April 10 objective is modeled at April 15 in HYDSIM.
- **Lower Granite flow targets** are removed from the OPER step because Dworshak is the only project available to help meet them and other operating requirements determine its operation.

Project Specific Data:

- **Mica, Duncan, and Arrow** are fixed to the 80-year DOP14 and DOP15 studies for 2014 and 2015 rate case studies, respectively with the following additions: 1) One MAF of flow augmentation is stored in January and is released in March in dry years or released in May, June, and July in non-dry years. For whitefish the 1 MAF storage is not allowed to decrease Arrow February or March outflows more than 19,000 cfs below the January outflow. The TSR DOP study is not limited for whitefish, but the 1 MAF storage is not allowed to worsen the operation for whitefish. 2) The trout spawning operation is included at Arrow where April 16 through April 30 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 10,000 cfs decrease is allowed in the April through June trout spawning period. 3) Arrow and Duncan balance operations to ensure that both projects are on TSR DOP14 or DOP15 contents by 31 July. 4) Mica balances to the TSR DOP14 or DOP15 contents in July when Arrow and Duncan can not. 5) The Libby Coordination Agreement Provisional Draft is included at Arrow.
- **Duncan** targets outflow of 8,000 cfs (to support Cora Linn and Brilliant flows) but does not draft below 1,845 feet (316.2 ksf) in September. Duncan targets 2,000 cfs in October, 2,900 cfs in November, 4,800 cfs in December (to support Kootenay Lake elevation), and 7,000 cfs in January (to support Arrow whitefish operation). Duncan has a minimum flow of 3,000 cfs and 2,000 cfs in February-March, respectively, which often control the operation. In February and March, when not controlled by minimum flows Duncan drafts for power with a draft limit of 1812.5 feet (93.1 ksf) in February and a maximum elevation of 1807.7 feet (65.3 ksf) in March. In April, Duncan drafts to empty (elev 1794.2, 0.0 ksf) unless the March 1 May through July forecast at Duncan is less than 1,480 KAF when Duncan operates to 1,000 cfs outflow in the first half of April and 100 cfs outflow in the second half of April. In May and June Duncan operates to minimum flow of 100 cfs unless the flood control URC requires more discharge. In July and August, Duncan targets the higher of the TSR DOP elevation or 1890 feet (688.2 ksf).
- **Arrow** stores up to 1 MAF for flow augmentation in January in all years, and releases the 1 MAF (15 percent in May, 15 percent in June, and 70 percent in July) in years with a Feb-1 forecast April through August volume at The Dalles less than 75.0 MAF. In drier years this storage of up to 1 MAF is released in March. Arrow has a minimum flow of 30,000 cfs in January 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, although in some years the project reaches empty and is unable to provide this minimum flow. The flow augmentation will all be released by July 31 allowing Arrow to be on TSR DOP14 or DOP15 elevation by 31 July. For trout spawning, Arrow outflow operates to minimum flow of 15,000 cfs in April 15, between 15,000 cfs and 25,000 cfs in April 30, between 15,000 cfs and 35,000 cfs in May-June. During April through June the outflow at Arrow can not decline unless the TSR DOP14 or DOP15 balance by June 30 is too negative. Then the outflow is allowed to reduce up to 10,000 cfs in the April through June (trout spawning period). The Outflow at Arrow can be increased in May-June to keep the July discharge below 80,000 cfs. Under the Libby Coordination Agreement (LCA) Arrow is allowed to draft below TSR DOP14 or DOP15 contents from August through December at most two times per year up to 120 ksf and return all the water by March (draft 60 ksf in July, 30 ksf in the first half of August, 30 ksf in the second half of August, and return all in October. Then draft 120 ksf in December and return all in March).
- **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**
 - Release ½ Maf from Mica (or Arrow) in November-June in years if the April Final April-August volume forecast at The Dalles is less than 71.8 Maf

- Store ½ Maf into Mica (or Arrow) in May-June in years if the April Final April-August volume forecast at The Dalles is 91.4 Maf or higher.
- Water that is stored in May or June should not violate the minimum flow requirements at Priest Rapids, Bonneville, McNary and the Arrow trout/whitefish operation. 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
 - Release in July-August the amount stored in April 16 – June 30 at Mica (or Arrow). If release in July resulting McNary exceeds its flow targets then release in August
- **Priest Rapids** flow augmentation targets for Steelhead are modeled as 120,000 cfs during April 16-30, and 135,000 cfs in May.
- **Brownlee** drafts to 2062.0 feet (391.5 ksf) in July, 2059.0 feet (373.5 ksf) in August 15, 2055 feet (349.4 ksf) in 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 IPC Fall Chinook operation, and Hells Canyon only exceeds the 9000 cfs flow when Brownlee drafts more due to the flood control URC. In December Brownlee targets elevation 2070.0 feet (443.2 ksf) but will draft deeper in order to meet the minimum flow of 9,000 cfs at Hells Canyon. In January Brownlee targets elevation 2060.0 feet but will draft deeper in order to meet the minimum flow of 9,000 cfs at Hells Canyon. In January , Brownlee suppose to draft to 2060.0 ft (379.5 ksf) but most often fill to the AER ending elevation of 2061.0 ft (385.4 ksf) or the flood control URC,. In February-May Brownlee maintains full content of 491.7 ksf (2077.0 ft) except when flood control URC or minimum flow at Hells Canyon of 9,000 cfs requires deeper drafts. In June Brownlee targets full except when a draft is needed to maintain a minimum flow of 7,000 cfs at Hells Canyon.
- **Dworshak** has a maximum discharge of 17,000 cfs in all periods to reflect typical actual operations and avoid exceeding 110 percent TDG level. February 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.
- **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 exceed 20,000 cfs. Libby’s outflow in May is based on a VarQ allowable refill calculation as used in actual operations. Libby’s June through September operation includes the sturgeon pulse with 7 days of 10,000 cfs spill during June, bull trout minimum required flows, and summer flow augmentation according to the Montana Proposal.
- **Hungry Horse** will violate the flood control upper rule curve to keep its maximum outflow at 20,000 cfs or below. Hungry Horse has a maximum elevation of 3558 feet (1480.1 ksf) in June. Hungry Horse’s summer draft is shaped to provide flat flows July through September where possible.
- **Albeni Falls** drafts to 2053 feet (146.1 ksf) by November 30, maintains this elevation through April 15, then fills to 2056.0 feet (279.0 ksf) by April 30, and fills to 2060.0 feet (465.7 ksf) in May.
- **Kerr** operates to elevation 2891 feet (488.6 ksf) in October and November, 2888 feet (302.8 ksf) in December, 2886.5 feet (211.0 ksf) in January, 2886.4 feet (204.9 ksf) in February, 2887 feet (241.5 ksf) in March, 2884.8 feet (107.9 ksf) in April 15, 2884.1 feet (65.7 ksf) in April 30, 2890 feet (426.3 ksf) in May, full at 2893 feet (614.7 ksf) June through August, and 2891.8 feet (538.8 ksf) in September. This operation is based on actual operations in recent past years.

- **Grand Coulee** operates at elevation 1285 feet (2411.4 ksf) in September and between 1283 feet (2332.0 ksf) and 1288 feet (2532.0 ksf) in October. Grand Coulee can not fill above 1288 feet (2532.0 ksf) in November-December and 1287 feet (2491.4 ksf) in January and February. Grand Coulee drafts to support the Chum flow target January through March subject to the draft limits of about 10 feet below the computed fish VECC. 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 and for Steelhead and Chum flow targets are: 1270 feet (1843.4 ksf) in December, 1260 feet (1489.1 ksf) in January, 1250 feet (1155.8 ksf) in February, 1240 feet (843.8 ksf) in March-May. In all periods, Coulee can not draft below 1228 feet (500.1 ksf) unless it is on flood control operation. Coulee operates to the lower of 1288 feet (2532.0 ksf) or flood control in June. July through August 15, Grand Coulee can not fill above 1288 feet (2532.0 ksf). The Washington Columbia River Water Management Program (WCRWMP) allows Coulee to draft an additional 1 foot in August; therefore, in August 1-15, the draft limit for BIOP flow augmentation is 1279 feet (2177.7 ksf) if July 1 April-August runoff at The Dalles is less than 92 MAF; otherwise the draft limit is 1281 feet (2254.4 ksf). In August 16-31, the draft limit is 1277 feet (2101.9 ksf) if the July 1 forecast April through August volume runoff at The Dalles is less than 92 MAF, otherwise the draft limit is 1279 feet (2177.7 ksf). Also, the Bureau performs maintenance during the spring on the spillway drum gates at least one year of every three years, at least two of every five years, and at least three of every seven years. For modeling, this maintenance requires a maximum Lake Roosevelt elevation of 1277.5 feet (2120.9 ksf) at the end of February (so as not to exceed the 1.5 feet/day draft limit in drafting to 1255 feet (1319.7 ksf) by March 15, and then elevation 1255 feet (1319.7 ksf) is held through April 30. 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.
- **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 and include the equivalent of 5 feet (65.5 ksf) flow augmentation in August and the associated increase in pumping the following March-May period to return those 5 feet to Banks Lake. In years when this flow augmentation is not needed to meet the McNary flow augmentation target of 200,000 cfs, the pumping is increased by the equivalent of 5 feet in August and the following year's March-May pumping is decreased.
- **Juvenile Fish Bypass Spill** for the federal projects are summarized in the following tables. Forecasts of less than 12.8 MAF April through June at Lower Granite are used to estimate when average spring flows are likely less than 65,000 cfs and less spill will be provided at the three Snake River projects. There are 15 years in the 80-year study that meet this criterion and do not include planned spill for fish passage at the three Snake River projects.

| Spill Criteria for BP14 Rate Case Final Proposal | | | | | | | | |
|---|---|-----------------|---|---|--|-----------|--|--|
| Projects | Spill | Min Turb | Days | Hour Ending | Notes | | | |
| Lower Granite | 20 kcfs(Apr3-Jun4) 18 kcfs(Jun5-Aug7) | 11.5 kcfs | Apr 3 - May 6, May 21 - Jun 4; Jun 5 - Aug 7 | All hours | Also see spring transport criteria. | | | |
| Little Goose | 30% of total flow | 11.5 kcfs | Apr 5 - May 6, May 21 - Aug 12 | All hours | Some years have no spring spill at the three Snake River transport projects. | | | |
| Lower Monumental | gas cap(Apr7-Jun4) 17 kcfs(Jun5-Aug15) | 11.5 kcfs | Apr 7 - May 6, May 21 - Jun 4; Jun 5 - Aug 15 | All hours | | | | |
| Ice Harbor | 35% of total flow 30%of total flow | 9.5 kcfs | Apr 7 - Jun 15 Jun 16 - Aug 16 | All hours | | All years | | |
| McNary | 40% of total flow 50%of total flow | | 50 kcfs | | April 10 - Jun 15 Jun 16 - Aug 31 | | All hours | All years |
| John Day | 30% of total flow 30% of total flow 30% of total flow | 50 kcfs | | Apr 10 - 19 Apr 20 - Jul 20 Jul 21 - Aug 31 | All hours | All years | | |
| The Dalles | 40% of total flow | | 50 kcfs | Apr 10 - Aug 31 | | | All hours | All years |
| Bonneville | 100 kcfs alternating, every 2 days: 85 kcfs day / 121 kcfs night 95 kcfs | | 30 kcfs | Apr 10 - Jun 15 Jun 16 - Aug 31 | | | All hours; day/night spill hours vary | Jun1-30 day hrs are 0430-2130; Jul1-31 day hrs are 0430-2200; Aug1-15 day hrs are 0500-2145; Aug16-31 day hrs are 0500-2030. |

Summary: 2008 BiOp Snake River spring spill / max transport decisions.

| Lower Granite Dam | | | | |
|-----------------------------|---------------|----------------|--------------------|---------------|
| | Apr1 | Apr2 | May | June* |
| Seasonal Average Flows < 65 | no spill | no spill | no spill | spill Jun1-30 |
| Seasonal Average Flows > 65 | spill Apr3-15 | spill Apr16-30 | spill May1-6,21-31 | spill Jun1-30 |
| Little Goose Dam | | | | |
| | Apr1 | Apr2 | May | June* |
| Seasonal Average Flows < 65 | no spill | no spill | no spill | spill Jun1-30 |
| Seasonal Average Flows > 65 | spill Apr5-15 | spill Apr16-30 | spill May1-6,21-31 | spill Jun1-30 |
| Lower Monumental Dam | | | | |
| | Apr1 | Apr2 | May | June* |
| Seasonal Average Flows < 65 | no spill | no spill | no spill | spill Jun1-30 |
| Seasonal Average Flows > 65 | spill Apr7-15 | spill Apr16-30 | spill May1-6,21-31 | spill Jun1-30 |

* Fed agreement that summer spill criteria starts June 5th on average.

- **Overgeneration Spill Priorities and TDG Gas Caps** are summarized in the following table. One kcfs equals one thousand cfs. Spill up to the TDG gas levels in the order listed below to avoid generation levels that exceed the secondary market limit. This is called ‘overgen spill’ in HYDSIM. First, starting with McNary, spill all projects up to the 120 percent TDG gas levels in the order shown below, then spill all projects up to the 125 percent TDG gas levels in the order shown, and then up to 130 percent, etc. 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 from the AURORA model. The following are rough approximations of 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 as necessary to manage to the appropriate gas level at the time.)

| | 120% | 125% | 130% | 135% |
|--------------------|-------------|-------------|-------------|-------------|
| MCN: | 138 kcfs | 230 kcfs | 310 kcfs | 450 kcfs |
| TDA: | 128 kcfs | 250 kcfs | 360 kcfs | 600 kcfs |
| JDA: | 94 kcfs | 240 kcfs | 450 kcfs | 600 kcfs |
| BON: | 120 kcfs | 150 kcfs | 225 kcfs | 270 kcfs |
| LWG: | 40 kcfs | 70 kcfs | 90 kcfs | 150 kcfs |
| LGS: | 27 kcfs | 80 kcfs | 150 kcfs | 250 kcfs |
| LMN: | 23 kcfs | 95 kcfs | 180 kcfs | 250 kcfs |
| IHR: | 97 kcfs | 125 kcfs | 180 kcfs | 240 kcfs |
| CHJ ¹ : | 150 kcfs | 200 kcfs | 300 kcfs | 450 kcfs |
| GCL ² : | 30 kcfs | 75 kcfs | 120 kcfs | 170 kcfs |
| GCL ³ : | 10 kcfs | 20 kcfs | 35 kcfs | 55 kcfs |

¹ 50 kcfs minimum turbine flow for CHJ included during ‘overgen’ spill.

² During all periods except May.

³ During May when the reservoir is more likely below the spillway crest elevation 1260 feet and the regulating outlets must be used to spill.

4. FEDERAL LOADS AND RESOURCES FOR FY2014 AND FY2015.....127

4.1 Federal Report Surplus Deficit

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Table 4.1.1
Federal Report Surplus Deficit
 Fiscal Year 2014 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr1 | Apr16 | May | Jun | Jul | Aug1 | Aug16 | Sep | Avg |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Firm Obligations | | | | | | | | | | | | | | | |
| 1 Non-Utility Obligation | 519 | 473 | 498 | 476 | 470 | 505 | 671 | 671 | 743 | 751 | 834 | 713 | 722 | 670 | 611 |
| 2 Federal Agencies | 107 | 132 | 154 | 151 | 140 | 135 | 113 | 113 | 104 | 105 | 119 | 115 | 114 | 103 | 123 |
| 3 USBR Obligation | 100 | 27.6 | 32.8 | 13.5 | 16.9 | 57.8 | 246 | 246 | 327 | 335 | 402 | 286 | 296 | 254 | 176 |
| 4 DSI Obligation | 311 | 313 | 311 | 312 | 313 | 312 | 312 | 312 | 312 | 311 | 312 | 313 | 312 | 313 | 312 |
| 5 Transfers Out | 6823 | 8165 | 8785 | 8315 | 8018 | 7530 | 6958 | 6975 | 7625 | 7110 | 7533 | 7321 | 7037 | 6827 | 7572 |
| 6 Load Following 2012 PSC | 2781 | 3236 | 3658 | 3616 | 3446 | 3054 | 2940 | 2940 | 2828 | 2946 | 3191 | 3134 | 3107 | 2878 | 3140 |
| 7 Slice Block 2012 PSC | 1655 | 2046 | 2274 | 2310 | 2137 | 1989 | 1663 | 1663 | 1454 | 1351 | 1592 | 1593 | 1593 | 1661 | 1809 |
| 8 Slice Right to Power 2012 PSC | 1617 | 2151 | 2118 | 1655 | 1579 | 1742 | 1715 | 1732 | 2764 | 2227 | 2154 | 1907 | 1676 | 1764 | 1943 |
| 9 Exports | 761 | 517 | 520 | 519 | 642 | 635 | 529 | 529 | 570 | 577 | 586 | 679 | 651 | 515 | 586 |
| 10 Intra-Regional Transfers (Out) | 9.00 | 215 | 215 | 215 | 215 | 110 | 110 | 110 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 93.6 |
| 11 Federal Diversity | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 Total Firm Obligations | 7341 | 8638 | 9283 | 8791 | 8488 | 8035 | 7629 | 7646 | 8368 | 7861 | 8366 | 8035 | 7759 | 7497 | 8184 |
| Net Resources | | | | | | | | | | | | | | | |
| 13 Net Hydro | 5648 | 7575 | 7314 | 5768 | 5618 | 6133 | 6118 | 6197 | 10163 | 8115 | 7918 | 6867 | 5935 | 6174 | 6924 |
| 14 Regulated Hydro - Net | 5327 | 7304 | 7135 | 5623 | 5466 | 5881 | 5684 | 5752 | 9445 | 7451 | 7514 | 6484 | 5561 | 5867 | 6571 |
| 15 Independent Hydro - Net | 321 | 271 | 179 | 145 | 152 | 251 | 434 | 445 | 718 | 664 | 403 | 361 | 358 | 332 | 354 |
| 16 Other Resources | 1113 | 1099 | 1107 | 1091 | 1086 | 1125 | 1129 | 1112 | 1120 | 1138 | 1112 | 1097 | 1134 | 1118 | 1112 |
| 17 Cogeneration Resources | 18.4 | 19.6 | 22.6 | 24.0 | 23.0 | 23.0 | 22.0 | 22.0 | 19.1 | 14.2 | 18.1 | 12.4 | 12.4 | 14.4 | 19.2 |
| 18 Combustion Turbines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 Large Thermal Resources | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 |
| 20 Renewable Resources | 62.4 | 46.3 | 51.1 | 34.2 | 30.0 | 69.0 | 74.2 | 57.0 | 68.1 | 91.1 | 61.6 | 51.9 | 89.1 | 71.2 | 60.3 |
| 21 Small Hydro Resources | 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 |
| 22 Small Thermal & Misc. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 4.1.1 - continued
Federal Report Surplus Deficit
 Fiscal Year 2014 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr1 | Apr16 | May | Jun | Jul | Aug1 | Aug16 | Sep | Avg |
|--|-------------|-------------|-------------|--------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|--------------|-------------|
| 23 Contract Purchases | 420 | 443 | 572 | 341 | 331 | 345 | 339 | 339 | 343 | 336 | 348 | 462 | 450 | 338 | 385 |
| 24 Imports | 20.4 | 37.9 | 269 | 36.4 | 37.2 | 33.9 | 16.2 | 16.2 | 1.12 | 1.00 | 16.1 | 132 | 133 | 24.0 | 52.7 |
| 25 Intra-Regional Transfers (In) | 112 | 108 | 11.1 | 16.2 | 8.96 | 26.5 | 34.5 | 34.5 | 32.9 | 42.9 | 34.4 | 38.6 | 38.7 | 25.4 | 41.1 |
| 26 Non-Federal CER | 139 | 138 | 134 | 139 | 137 | 134 | 138 | 138 | 138 | 132 | 138 | 138 | 129 | 138 | 136 |
| 27 Slice Transmission Loss Return | 30.4 | 40.6 | 40.0 | 31.2 | 29.7 | 32.8 | 32.3 | 32.6 | 52.2 | 42.0 | 40.6 | 35.9 | 31.6 | 33.2 | 36.6 |
| 28 Augmentation Purchases | 118 | 118 | 118 | 118 | 118 | 118 | 118 | 118 | 118 | 118 | 118 | 118 | 118 | 118 | 118 |
| 29 Reserves & Losses | -203 | -257 | -254 | -203 | -198 | -214 | -214 | -216 | -328 | -270 | -264 | -238 | -212 | -215 | -237 |
| 30 Contingency Reserves (Spinning) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 Contingency Reserves (Non-Spinning) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 32 Load Following Reserves | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33 Generation Imbalance Reserves | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34 Transmission Losses | -203 | -257 | -254 | -203 | -198 | -214 | -214 | -216 | -328 | -270 | -264 | -238 | -212 | -215 | -237 |
| 35 Total Net Resources | 6979 | 8860 | 8740 | 6997 | 6836 | 7389 | 7372 | 7433 | 11298 | 9319 | 9113 | 8189 | 7307 | 7416 | 8184 |
| 36 Total Surplus/Deficit | -362 | 222 | -544 | -1794 | -1652 | -647 | -257 | -213 | 2930 | 1458 | 747 | 154 | -452 | -81.4 | 0 |

Table 4.1.1 -continued
Federal Report Surplus Deficit
 Fiscal Year 2015 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr1 | Apr16 | May | Jun | Jul | Aug1 | Aug16 | Sep | Avg |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Firm Obligations | | | | | | | | | | | | | | | |
| 1 Non-Utility Obligation | 520 | 475 | 500 | 480 | 473 | 508 | 674 | 674 | 745 | 753 | 830 | 710 | 718 | 666 | 612 |
| 2 Federal Agencies | 108 | 134 | 157 | 155 | 143 | 138 | 116 | 116 | 106 | 107 | 116 | 111 | 110 | 99.4 | 124 |
| 3 USBR Obligation | 100 | 27.6 | 32.8 | 13.5 | 16.9 | 57.8 | 246 | 246 | 327 | 335 | 402 | 286 | 296 | 254 | 176 |
| 4 DSI Obligation | 311 | 313 | 311 | 312 | 313 | 312 | 312 | 312 | 312 | 311 | 312 | 313 | 312 | 313 | 312 |
| 5 Transfers Out | 6906 | 8266 | 8943 | 8603 | 8160 | 7648 | 7086 | 7096 | 7476 | 6822 | 7452 | 7533 | 7227 | 6726 | 7622 |
| 6 Load Following 2012 PSC | 2849 | 3305 | 3722 | 3673 | 3502 | 3107 | 2989 | 2989 | 2876 | 2995 | 3245 | 3192 | 3166 | 2937 | 3197 |
| 7 Slice Block 2012 PSC | 1736 | 2147 | 2387 | 2424 | 2243 | 2088 | 1746 | 1746 | 1526 | 1419 | 1671 | 1672 | 1672 | 1743 | 1899 |
| 8 Slice Right to Power 2012 PSC | 1576 | 2105 | 2127 | 1799 | 1583 | 1732 | 1736 | 1745 | 2519 | 1848 | 1971 | 1978 | 1727 | 1518 | 1867 |
| 9 Exports | 736 | 494 | 493 | 492 | 617 | 610 | 505 | 505 | 547 | 551 | 556 | 682 | 654 | 518 | 566 |
| 10 Intra-Regional Transfers (Out) | 9.00 | 214 | 215 | 215 | 215 | 110 | 110 | 110 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 93.6 |
| 11 Federal Diversity | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 Total Firm Obligations | 7426 | 8741 | 9444 | 9083 | 8633 | 8155 | 7760 | 7770 | 8221 | 7575 | 8282 | 8243 | 7945 | 7392 | 8235 |
| Net Resources | | | | | | | | | | | | | | | |
| 13 Net Hydro | 5577 | 7487 | 7333 | 6306 | 5623 | 6084 | 6188 | 6239 | 9757 | 7685 | 7478 | 7167 | 6154 | 5270 | 6799 |
| 14 Regulated Hydro - Net | 5255 | 7216 | 7154 | 6161 | 5471 | 5833 | 5753 | 5794 | 9039 | 7021 | 7075 | 6784 | 5780 | 4963 | 6446 |
| 15 Independent Hydro - Net | 321 | 271 | 179 | 145 | 152 | 251 | 434 | 445 | 718 | 664 | 403 | 361 | 358 | 332 | 354 |
| 16 Other Resources | 1113 | 1099 | 1107 | 1091 | 1086 | 1125 | 1129 | 1112 | 588 | 108 | 846 | 1097 | 1134 | 1118 | 960 |
| 17 Cogeneration Resources | 18.4 | 19.6 | 22.6 | 24.0 | 23.0 | 23.0 | 22.0 | 22.0 | 19.1 | 14.2 | 18.1 | 12.4 | 12.4 | 14.4 | 19.2 |
| 18 Combustion Turbines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 Large Thermal Resources | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 498 | 0 | 764 | 1030 | 1030 | 1030 | 878 |
| 20 Renewable Resources | 62.4 | 46.3 | 51.1 | 34.2 | 30.0 | 69.0 | 74.2 | 57.0 | 68.1 | 91.1 | 61.6 | 51.9 | 89.1 | 71.2 | 60.3 |
| 21 Small Hydro Resources | 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 |
| 22 Small Thermal & Misc. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 4.1.1 -continued
Federal Report Surplus Deficit
Fiscal Year 2015 Water Year: 1937
103 - 2014 Initial Rate Case 10-29-2012

| Energy-aMW | Oct | Nov | Dec | Jan | Feb | Mar | Apr1 | Apr16 | May | Jun | Jul | Aug1 | Aug16 | Sep | Avg |
|--|-------------|-------------|-------------|--------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|
| 23 Contract Purchases | 675 | 695 | 924 | 692 | 679 | 692 | 687 | 687 | 681 | 682 | 688 | 807 | 794 | 670 | 714 |
| 24 Imports | 20.4 | 39.1 | 268 | 37.3 | 37.2 | 33.3 | 16.2 | 16.2 | 1.12 | 1.00 | 11.6 | 127 | 128 | 12.0 | 50.9 |
| 25 Intra-Regional Transfers (In) | 20.4 | 17.0 | 11.1 | 16.2 | 8.96 | 26.5 | 34.5 | 34.5 | 32.9 | 42.8 | 34.4 | 38.6 | 38.7 | 25.4 | 25.8 |
| 26 Non-Federal CER | 138 | 132 | 138 | 138 | 136 | 133 | 137 | 137 | 133 | 137 | 138 | 137 | 128 | 137 | 136 |
| 27 Slice Transmission Loss Return | 29.7 | 39.7 | 40.1 | 33.9 | 29.8 | 32.6 | 32.7 | 32.9 | 47.6 | 34.8 | 37.2 | 37.3 | 32.5 | 28.6 | 35.2 |
| 28 Augmentation Purchases | 467 | 467 | 467 | 467 | 467 | 467 | 467 | 467 | 467 | 467 | 467 | 467 | 467 | 467 | 467 |
| 29 Reserves & Losses | -208 | -262 | -264 | -228 | -208 | -223 | -226 | -227 | -311 | -239 | -254 | -256 | -228 | -199 | -239 |
| 30 Contingency Reserves (Spinning) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 Contingency Reserves (Non-Spinning) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 32 Load Following Reserves | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33 Generation Imbalance Reserves | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34 Transmission Losses | -208 | -262 | -264 | -228 | -208 | -223 | -226 | -227 | -311 | -239 | -254 | -256 | -228 | -199 | -239 |
| 35 Total Net Resources | 7158 | 9019 | 9101 | 7861 | 7180 | 7679 | 7778 | 7812 | 10714 | 8236 | 8758 | 8815 | 7854 | 6858 | 8235 |
| 36 Total Surplus/Deficit | -268 | 278 | -343 | -1221 | -1453 | -476 | 18.1 | 41.8 | 2493 | 661 | 476 | 572 | -90.5 | -533 | 0 |

Table 4.1.2
Federal Report Surplus Deficit
 Fiscal Year 2014 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr1 | Apr16 | May | Jun | Jul | Aug1 | Aug16 | Sep | Avg |
|-----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Firm Obligations | | | | | | | | | | | | | | | |
| 1 Non-Utility Obligation | 196426 | 178203 | 193941 | 202589 | 174889 | 196297 | 115338 | 115338 | 290816 | 265757 | 283979 | 128239 | 128239 | 220834 | 2690885 |
| 2 Federal Agencies | 48069 | 54090 | 65546 | 64777 | 55290 | 59639 | 24238 | 24238 | 44847 | 46656 | 52596 | 25994 | 25994 | 43777 | 635749 |
| 3 USBR Obligation | 15103 | 1178 | 1052 | 9222 | 1156 | 4384 | 26969 | 26969 | 119061 | 92756 | 104344 | 36536 | 36536 | 55514 | 530779 |
| 4 DSI Obligation | 133254 | 122936 | 127343 | 128589 | 118442 | 132274 | 64132 | 64132 | 126907 | 126345 | 127039 | 65709 | 65709 | 121544 | 1524357 |
| 5 Transfers Out | 3241168 | 3582052 | 3925546 | 3756678 | 3332758 | 3471343 | 1576667 | 1590206 | 3495318 | 3254141 | 3484527 | 1715880 | 1661095 | 3059192 | 41146571 |
| 6 Load Following 2012 PSC | 1279488 | 1373543 | 1604394 | 1588876 | 1398800 | 1380545 | 648052 | 648052 | 1245420 | 1309282 | 1421854 | 715566 | 715566 | 1247254 | 16576692 |
| 7 Slice Block 2012 PSC | 714817 | 818546 | 909748 | 960952 | 820727 | 827610 | 346005 | 346005 | 604717 | 540230 | 662383 | 331381 | 331381 | 664545 | 8879047 |
| 8 Slice Right to Power 2012 PSC | 768056 | 958560 | 967756 | 760195 | 658745 | 807822 | 384793 | 398331 | 1255884 | 1027423 | 1003647 | 458949 | 404165 | 796288 | 10650614 |
| 9 Exports | 474920 | 357026 | 369161 | 369146 | 382949 | 416171 | 178218 | 178218 | 385552 | 373606 | 392899 | 208111 | 208111 | 347505 | 4641593 |
| 10 Intra-Regional Transfers (Out) | 3888 | 74376 | 74487 | 77509 | 71537 | 39196 | 19600 | 19600 | 3744 | 3600 | 3744 | 1872 | 1872 | 3600 | 398624 |
| 11 Federal Diversity | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 Total Firm Obligations | 3437594 | 3760255 | 4119487 | 3959267 | 3507646 | 3667640 | 1692006 | 1705544 | 3786134 | 3519898 | 3768506 | 1844118 | 1789334 | 3280026 | 43837456 |
| Net Resources | | | | | | | | | | | | | | | |
| 13 Net Hydro | 2799634 | 3516231 | 3504781 | 2797654 | 2458515 | 2973563 | 1408777 | 1466385 | 4745051 | 3847630 | 3770908 | 1701683 | 1483339 | 2892257 | 39366408 |
| 14 Regulated Hydro - Net | 2644379 | 3390028 | 3426254 | 2731926 | 2395935 | 2855343 | 1308595 | 1363992 | 4415529 | 3550034 | 3594206 | 1617912 | 1395979 | 2754491 | 37444601 |
| 15 Independent Hydro - Net | 155254 | 126203 | 78527 | 65728 | 62580 | 118220 | 100183 | 102393 | 329523 | 297596 | 176702 | 79382 | 84611 | 145303 | 1922204 |
| 16 Other Resources | 479839 | 438066 | 441284 | 455452 | 415213 | 467731 | 236890 | 228868 | 460659 | 453230 | 463849 | 226225 | 235636 | 448946 | 5451888 |
| 17 Cogeneration Resources | 7936 | 7840 | 9044 | 9963 | 8844 | 9551 | 4574 | 4574 | 7929 | 5680 | 7538 | 2583 | 2583 | 5776 | 94415 |
| 18 Combustion Turbines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 Large Thermal Resources | 444960 | 412000 | 412000 | 428480 | 395520 | 428480 | 214240 | 214240 | 428480 | 412000 | 428480 | 214240 | 214240 | 412000 | 5059360 |
| 20 Renewable Resources | 25788 | 17086 | 18949 | 15668 | 9678 | 28407 | 17434 | 9412 | 23071 | 34462 | 26736 | 8853 | 18265 | 30118 | 283927 |
| 21 Small Hydro Resources | 1155 | 1140 | 1291 | 1341 | 1172 | 1293 | 642 | 642 | 1179 | 1088 | 1095 | 548 | 548 | 1052 | 14187 |
| 22 Small Thermal & Misc. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 4.1.2 - continued
Federal Report Surplus Deficit
 Fiscal Year 2014 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr1 | Apr16 | May | Jun | Jul | Aug1 | Aug16 | Sep | Avg |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| 23 Contract Purchases | 220825 | 210362 | 263256 | 176079 | 159055 | 181516 | 90368 | 90625 | 185907 | 178512 | 183728 | 116658 | 115617 | 172106 | 2344615 |
| 24 Imports | 3824 | 6292 | 98314 | 5629 | 5420 | 5931 | 1404 | 1404 | 436 | 400 | 3366 | 26050 | 26050 | 4167 | 188687 |
| 25 Intra-Regional Transfers (In) | 48210 | 43081 | 3779 | 7520 | 4055 | 11750 | 7618 | 7618 | 13538 | 16215 | 13222 | 7852 | 7852 | 10434 | 202744 |
| 26 Non-Federal CER | 103248 | 95600 | 95600 | 99424 | 91776 | 99424 | 49504 | 49504 | 99008 | 95200 | 99008 | 49504 | 49504 | 95200 | 1171504 |
| 27 Slice Transmission Loss Return | 14470 | 18099 | 18274 | 14325 | 12406 | 15230 | 7252 | 7509 | 23744 | 19408 | 18951 | 8661 | 7620 | 15016 | 200965 |
| 28 Augmentation Purchases | 51073 | 47290 | 47290 | 49181 | 45398 | 49181 | 24591 | 24591 | 49181 | 47290 | 49181 | 24591 | 24591 | 47290 | 580716 |
| 29 Reserves & Losses | -98708 | -117443 | -118703 | -96703 | -85524 | -102163 | -48956 | -50362 | -152044 | -126318 | -124601 | -57657 | -51736 | -99075 | -1329994 |
| 30 Contingency Reserves (Spinning) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 Contingency Reserves (Non-Spinning) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 32 Load Following Reserves | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33 Generation Imbalance Reserves | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34 Transmission Losses | -98708 | -117443 | -118703 | -96703 | -85524 | -102163 | -48956 | -50362 | -152044 | -126318 | -124601 | -57657 | -51736 | -99075 | -1329994 |
| 35 Total Net Resources | 3401589 | 4047216 | 4090618 | 3332482 | 2947259 | 3520647 | 1687080 | 1735516 | 5239574 | 4353054 | 4293884 | 1986908 | 1782857 | 3414234 | 45832917 |
| 36 Total Surplus/Deficit | -36005 | 286961 | -28869 | -626785 | -560388 | -146993 | -4926 | 29972 | 1453440 | 833155 | 525378 | 142790 | -6477 | 134208 | 1995461 |

Table 4.1.2 - continued
Federal Report Surplus Deficit
 Fiscal Year 2015 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr1 | Apr16 | May | Jun | Jul | Aug1 | Aug16 | Sep | Avg |
|-----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Firm Obligations | | | | | | | | | | | | | | | |
| 1 Non-Utility Obligation | 197088 | 179086 | 194799 | 203990 | 176069 | 197494 | 115829 | 115829 | 291652 | 266849 | 282359 | 127473 | 127473 | 219191 | 2695181 |
| 2 Federal Agencies | 48730 | 54979 | 66399 | 66179 | 56471 | 60837 | 24728 | 24728 | 45936 | 47444 | 50976 | 25228 | 25228 | 42133 | 639996 |
| 3 USBR Obligation | 15103 | 1171 | 1056 | 9222 | 1156 | 4384 | 26969 | 26969 | 118809 | 93059 | 104344 | 36536 | 36536 | 55514 | 530828 |
| 4 DSI Obligation | 133254 | 122936 | 127343 | 128589 | 118442 | 132274 | 64132 | 64132 | 126907 | 126345 | 127039 | 65709 | 65709 | 121544 | 1524357 |
| 5 Transfers Out | 3269074 | 3577805 | 4039982 | 3890109 | 3386471 | 3520696 | 1605565 | 1615053 | 3391194 | 3137313 | 3505574 | 1752250 | 1710786 | 2989726 | 41391597 |
| 6 Load Following 2012 PSC | 1310418 | 1394474 | 1641692 | 1613832 | 1421729 | 1404886 | 659059 | 659059 | 1259807 | 1337884 | 1445775 | 728870 | 728870 | 1273058 | 16879413 |
| 7 Slice Block 2012 PSC | 750104 | 824465 | 992991 | 1008299 | 861386 | 868629 | 363254 | 363254 | 610560 | 590461 | 695109 | 347683 | 347683 | 697252 | 9321131 |
| 8 Slice Right to Power 2012 PSC | 748143 | 948371 | 976968 | 839812 | 665488 | 810092 | 394336 | 403824 | 1150878 | 848619 | 989974 | 464527 | 423063 | 665435 | 10329529 |
| 9 Exports | 456520 | 339104 | 350855 | 350654 | 366331 | 397890 | 169315 | 169315 | 366350 | 356604 | 370973 | 209297 | 209297 | 350381 | 4462888 |
| 10 Intra-Regional Transfers (Out) | 3888 | 71392 | 77477 | 77511 | 71537 | 39199 | 19600 | 19600 | 3600 | 3744 | 3744 | 1872 | 1872 | 3600 | 398635 |
| 11 Federal Diversity | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 Total Firm Obligations | 3466162 | 3756892 | 4234781 | 4094099 | 3562540 | 3718190 | 1721394 | 1730882 | 3682847 | 3404161 | 3787933 | 1879723 | 1838259 | 3208917 | 44086778 |
| Net Resources | | | | | | | | | | | | | | | |
| 13 Net Hydro | 2752835 | 3518653 | 3504377 | 3087293 | 2472114 | 2969558 | 1438743 | 1480882 | 4566077 | 3563234 | 3815873 | 1728712 | 1561234 | 2404847 | 38864432 |
| 14 Regulated Hydro - Net | 2597580 | 3392450 | 3425850 | 3021565 | 2409534 | 2851338 | 1338561 | 1378489 | 4236555 | 3265638 | 3639171 | 1644942 | 1473874 | 2267080 | 36942625 |
| 15 Independent Hydro - Net | 155254 | 126203 | 78527 | 65728 | 62580 | 118220 | 100183 | 102393 | 329523 | 297596 | 176702 | 79382 | 84611 | 145303 | 1922204 |
| 16 Other Resources | 479839 | 421231 | 458168 | 455452 | 415213 | 467731 | 236890 | 228868 | 231032 | 41499 | 353193 | 226225 | 235636 | 448946 | 4699923 |
| 17 Cogeneration Resources | 7936 | 7526 | 9406 | 9963 | 8844 | 9551 | 4574 | 4574 | 7624 | 5907 | 7538 | 2583 | 2583 | 5776 | 94386 |
| 18 Combustion Turbines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 Large Thermal Resources | 444960 | 395520 | 428480 | 428480 | 395520 | 428480 | 214240 | 214240 | 199200 | 0 | 317824 | 214240 | 214240 | 412000 | 4307424 |
| 20 Renewable Resources | 25788 | 17086 | 18949 | 15668 | 9678 | 28407 | 17434 | 9412 | 23071 | 34462 | 26736 | 8853 | 18265 | 30118 | 283927 |
| 21 Small Hydro Resources | 1155 | 1098 | 1333 | 1341 | 1172 | 1293 | 642 | 642 | 1137 | 1130 | 1095 | 548 | 548 | 1052 | 14187 |
| 22 Small Thermal & Misc. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 4.1.2 - continued
Federal Report Surplus Deficit
 Fiscal Year 2015 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| HLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr1 | Apr16 | May | Jun | Jul | Aug1 | Aug16 | Sep | Avg |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| 23 Contract Purchases | 331012 | 301060 | 417678 | 322897 | 292630 | 325357 | 162833 | 163014 | 316688 | 326041 | 327246 | 188678 | 187890 | 307260 | 3970282 |
| 24 Imports | 3824 | 6338 | 102131 | 6366 | 5420 | 5161 | 1404 | 1404 | 420 | 416 | 2576 | 25680 | 25680 | 2800 | 189620 |
| 25 Intra-Regional Transfers (In) | 8648 | 6191 | 3930 | 7520 | 4055 | 11750 | 7618 | 7618 | 13017 | 16863 | 13222 | 7852 | 7852 | 10434 | 126570 |
| 26 Non-Federal CER | 102816 | 91392 | 99008 | 99008 | 91392 | 99008 | 49296 | 49296 | 94800 | 98592 | 98592 | 49296 | 49296 | 94800 | 1166592 |
| 27 Slice Transmission Loss Return | 14091 | 17910 | 18444 | 15838 | 12535 | 15273 | 7433 | 7613 | 21754 | 16005 | 18691 | 8767 | 7979 | 12529 | 194863 |
| 28 Augmentation Purchases | 201633 | 179229 | 194165 | 194165 | 179229 | 194165 | 97082 | 97082 | 186697 | 194165 | 194165 | 97082 | 97082 | 186697 | 2292637 |
| 29 Reserves & Losses | -100496 | -119595 | -123522 | -109011 | -89675 | -106107 | -51845 | -52812 | -144209 | -110848 | -126796 | -60450 | -55970 | -89142 | -1340477 |
| 30 Contingency Reserves (Spinning) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 Contingency Reserves (Non-Spinning) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 32 Load Following Reserves | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33 Generation Imbalance Reserves | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34 Transmission Losses | -100496 | -119595 | -123522 | -109011 | -89675 | -106107 | -51845 | -52812 | -144209 | -110848 | -126796 | -60450 | -55970 | -89142 | -1340477 |
| 35 Total Net Resources | 3463189 | 4121349 | 4256701 | 3756631 | 3090282 | 3656539 | 1786622 | 1819952 | 4969587 | 3819927 | 4369516 | 2083164 | 1928790 | 3071911 | 46194161 |
| 36 Total Surplus/Deficit | -2972 | 364457 | 21920 | -337468 | -472258 | -61651 | 65228 | 89070 | 1286741 | 415766 | 581583 | 203441 | 90531 | -137005 | 2107383 |

Table 4.1.3
Federal Report Surplus Deficit
 Fiscal Year 2014 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr1 | Apr16 | May | Jun | Jul | Aug1 | Aug16 | Sep | Avg |
|-----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Firm Obligations | | | | | | | | | | | | | | | |
| 1 Non-Utility Obligation | 189389 | 162935 | 176532 | 151716 | 140874 | 178788 | 126317 | 126317 | 261794 | 274940 | 336247 | 128558 | 148857 | 261699 | 2664964 |
| 2 Federal Agencies | 31543 | 41375 | 49230 | 47676 | 38985 | 40685 | 16607 | 16607 | 32570 | 28733 | 36174 | 15270 | 17681 | 30627 | 443763 |
| 3 USBR Obligation | 59348 | 18701 | 23388 | 825 | 10187 | 38542 | 61453 | 61453 | 124148 | 148788 | 194805 | 66484 | 76982 | 127332 | 1012435 |
| 4 DSI Obligation | 98499 | 102859 | 103914 | 103216 | 91703 | 99561 | 48257 | 48257 | 105075 | 97418 | 105268 | 46804 | 54195 | 103741 | 1208766 |
| 5 Transfers Out | 1834885 | 2304843 | 2610721 | 2429804 | 2055643 | 2123789 | 928122 | 920640 | 2177745 | 1865122 | 2119900 | 919844 | 1041100 | 1856207 | 25188365 |
| 6 Load Following 2012 PSC | 789505 | 959282 | 1117048 | 1101602 | 916680 | 888566 | 410223 | 410223 | 858546 | 811961 | 952370 | 412565 | 477707 | 824604 | 10930882 |
| 7 Slice Block 2012 PSC | 516256 | 656883 | 782383 | 757674 | 615545 | 650549 | 252850 | 252850 | 476796 | 432184 | 522264 | 242163 | 280400 | 531636 | 6970434 |
| 8 Slice Right to Power 2012 PSC | 435091 | 592240 | 608373 | 471464 | 402267 | 486316 | 232662 | 225180 | 800701 | 576142 | 599003 | 227593 | 239546 | 473802 | 6370379 |
| 9 Exports | 91225 | 16078 | 17613 | 16672 | 48201 | 55648 | 12351 | 12351 | 38750 | 41955 | 43311 | 36155 | 41863 | 23286 | 495458 |
| 10 Intra-Regional Transfers (Out) | 2808 | 80360 | 85304 | 82393 | 72950 | 42709 | 20036 | 20036 | 2952 | 2880 | 2952 | 1368 | 1584 | 2880 | 421213 |
| 11 Federal Diversity | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 Total Firm Obligations | 2024274 | 2467779 | 2787252 | 2581520 | 2196516 | 2302578 | 1054439 | 1046957 | 2439539 | 2140061 | 2456147 | 1048402 | 1189957 | 2117906 | 27853328 |
| Net Resources | | | | | | | | | | | | | | | |
| 13 Net Hydro | 1402668 | 1945544 | 1936908 | 1493853 | 1316629 | 1583029 | 793876 | 764624 | 2816562 | 1995045 | 2119744 | 770473 | 795543 | 1553227 | 21287725 |
| 14 Regulated Hydro - Net | 1318752 | 1876247 | 1882193 | 1451488 | 1276997 | 1514575 | 737761 | 706831 | 2611894 | 1814631 | 1996542 | 716474 | 739405 | 1469967 | 20113757 |
| 15 Independent Hydro - Net | 83916 | 69297 | 54715 | 42365 | 39632 | 68454 | 56115 | 57793 | 204669 | 180414 | 123202 | 50516 | 52948 | 93459 | 1177493 |
| 16 Other Resources | 348542 | 354149 | 382241 | 356484 | 314640 | 368210 | 169634 | 171492 | 372635 | 366118 | 363706 | 168667 | 199871 | 356226 | 4292615 |
| 17 Cogeneration Resources | 5731 | 6292 | 7778 | 7856 | 6633 | 7508 | 3342 | 3342 | 6252 | 4544 | 5943 | 1888 | 2186 | 4621 | 73916 |
| 18 Combustion Turbines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 Large Thermal Resources | 321360 | 330630 | 354320 | 337840 | 296640 | 336810 | 156560 | 156560 | 337840 | 329600 | 337840 | 156560 | 181280 | 329600 | 3963440 |
| 20 Renewable Resources | 20616 | 16322 | 19063 | 9745 | 10489 | 22884 | 9262 | 11120 | 27614 | 31106 | 19059 | 9820 | 15942 | 21164 | 244204 |
| 21 Small Hydro Resources | 835 | 905 | 1080 | 1044 | 878 | 1009 | 470 | 470 | 930 | 868 | 864 | 400 | 463 | 842 | 11055 |
| 22 Small Thermal & Misc. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 4.1.3 - continued
Federal Report Surplus Deficit
Fiscal Year 2014 Water Year: 1937
103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr1 | Apr16 | May | Jun | Jul | Aug1 | Aug16 | Sep | Avg |
|---|----------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|----------------|----------------|----------------|---------------|----------------|----------------|-----------------|
| 23 Contract Purchases | 91506 | 109051 | 162576 | 77464 | 63174 | 74996 | 31556 | 31414 | 69043 | 63682 | 74865 | 49829 | 57241 | 71476 | 1027872 |
| 24 Imports | 11330 | 21065 | 102119 | 21460 | 19599 | 19279 | 4417 | 4417 | 398 | 320 | 8598 | 21528 | 24928 | 13080 | 272537 |
| 25 Intra-Regional Transfers (In) | 35112 | 35051 | 4504 | 4539 | 1967 | 7911 | 4792 | 4792 | 10939 | 14675 | 12394 | 6050 | 7006 | 7845 | 157576 |
| 26 Non-Federal CER | 0 | 3824 | 3824 | 3824 | 0 | 0 | 0 | 0 | 3808 | 0 | 3808 | 0 | 0 | 3808 | 22896 |
| 27 Slice Transmission Loss Return | 8177 | 11161 | 11461 | 8864 | 7561 | 9146 | 4377 | 4235 | 15120 | 10855 | 11287 | 4281 | 4501 | 8911 | 119937 |
| 28 Augmentation Purchases | 36886 | 37950 | 40669 | 38777 | 34048 | 38659 | 17970 | 17970 | 38777 | 37832 | 38777 | 17970 | 20807 | 37832 | 454926 |
| 29 Reserves & Losses | -51965 | -67927 | -69985 | -54364 | -47783 | -57140 | -28061 | -27284 | -91882 | -68381 | -72144 | -27889 | -29685 | -55862 | -750352 |
| 30 Contingency Reserves (Spinning) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 Contingency Reserves (Non-Spinning) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 32 Load Following Reserves | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33 Generation Imbalance Reserves | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34 Transmission Losses | -51965 | -67927 | -69985 | -54364 | -47783 | -57140 | -28061 | -27284 | -91882 | -68381 | -72144 | -27889 | -29685 | -55862 | -750352 |
| 35 Total Net Resources | 1790751 | 2340818 | 2411741 | 1873437 | 1646660 | 1969095 | 967005 | 940245 | 3166358 | 2356463 | 2486170 | 961081 | 1022971 | 1925066 | 25857861 |
| 36 Total Surplus/Deficit | -233523 | -126961 | -375512 | -708084 | -549856 | -333482 | -87434 | -106711 | 726819 | 216402 | 30022 | -87321 | -166986 | -192840 | -1995468 |

Table 4.1.3 - continued
Federal Report Surplus Deficit
 Fiscal Year 2015 Water Year: 1937
 103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr1 | Apr16 | May | Jun | Jul | Aug1 | Aug16 | Sep | Avg |
|-----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Firm Obligations | | | | | | | | | | | | | | | |
| 1 Non-Utility Obligation | 189828 | 163433 | 177389 | 152822 | 141745 | 179666 | 126675 | 126675 | 262570 | 275442 | 335045 | 128077 | 148300 | 260476 | 2668142 |
| 2 Federal Agencies | 31981 | 41867 | 50092 | 48781 | 39856 | 41563 | 16965 | 16965 | 33095 | 29538 | 34973 | 14789 | 17124 | 29404 | 446991 |
| 3 USBR Obligation | 59348 | 18707 | 23383 | 825 | 10187 | 38542 | 61453 | 61453 | 124400 | 148485 | 194805 | 66484 | 76982 | 127332 | 1012385 |
| 4 DSI Obligation | 98499 | 102859 | 103914 | 103216 | 91703 | 99561 | 48257 | 48257 | 105076 | 97418 | 105268 | 46804 | 54195 | 103741 | 1208767 |
| 5 Transfers Out | 1869139 | 2381834 | 2613859 | 2510719 | 2097291 | 2161424 | 945549 | 939528 | 2171296 | 1774502 | 2038652 | 959568 | 1064264 | 1852643 | 25380267 |
| 6 Load Following 2012 PSC | 808920 | 988640 | 1127177 | 1119084 | 931811 | 903969 | 417127 | 417127 | 879576 | 818698 | 968360 | 420346 | 486716 | 841714 | 11129264 |
| 7 Slice Block 2012 PSC | 541742 | 723553 | 782935 | 795005 | 646040 | 682793 | 265455 | 265455 | 525082 | 431491 | 548066 | 254076 | 294194 | 557802 | 7313688 |
| 8 Slice Right to Power 2012 PSC | 424396 | 569663 | 605545 | 498736 | 398280 | 476415 | 230577 | 224555 | 723012 | 481766 | 476668 | 247704 | 240001 | 427412 | 6024730 |
| 9 Exports | 91274 | 16745 | 15775 | 15502 | 48209 | 55541 | 12355 | 12355 | 40530 | 39812 | 42606 | 36073 | 41769 | 22835 | 491382 |
| 10 Intra-Regional Transfers (Out) | 2808 | 83233 | 82426 | 82392 | 72950 | 42706 | 20036 | 20036 | 3096 | 2736 | 2952 | 1368 | 1584 | 2880 | 421203 |
| 11 Federal Diversity | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 Total Firm Obligations | 2058967 | 2545267 | 2791247 | 2663541 | 2239036 | 2341089 | 1072224 | 1066203 | 2433866 | 2049944 | 2373697 | 1087645 | 1212564 | 2113118 | 28048409 |
| Net Resources | | | | | | | | | | | | | | | |
| 13 Net Hydro | 1396296 | 1879595 | 1951654 | 1604262 | 1306850 | 1551086 | 788785 | 765111 | 2692781 | 1970009 | 1747605 | 851287 | 801929 | 1389221 | 20696471 |
| 14 Regulated Hydro - Net | 1312380 | 1810298 | 1896939 | 1561897 | 1267218 | 1482632 | 732670 | 707318 | 2488112 | 1789595 | 1624403 | 797288 | 745791 | 1305962 | 19522502 |
| 15 Independent Hydro - Net | 83916 | 69297 | 54715 | 42365 | 39632 | 68454 | 56115 | 57793 | 204669 | 180414 | 123202 | 50516 | 52948 | 93459 | 1177493 |
| 16 Other Resources | 348542 | 370985 | 365357 | 356484 | 314640 | 368210 | 169634 | 171492 | 206454 | 36248 | 276458 | 168667 | 199871 | 356226 | 3709269 |
| 17 Cogeneration Resources | 5731 | 6605 | 7416 | 7856 | 6633 | 7508 | 3342 | 3342 | 6557 | 4317 | 5943 | 1888 | 2186 | 4621 | 73945 |
| 18 Combustion Turbines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 Large Thermal Resources | 321360 | 347110 | 337840 | 337840 | 296640 | 336810 | 156560 | 156560 | 171312 | 0 | 250592 | 156560 | 181280 | 329600 | 3380064 |
| 20 Renewable Resources | 20616 | 16322 | 19063 | 9745 | 10489 | 22884 | 9262 | 11120 | 27614 | 31106 | 19059 | 9820 | 15942 | 21164 | 244204 |
| 21 Small Hydro Resources | 835 | 947 | 1038 | 1044 | 878 | 1009 | 470 | 470 | 972 | 826 | 864 | 400 | 463 | 842 | 11055 |
| 22 Small Thermal & Misc. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 4.1.3 - continued
Federal Report Surplus Deficit
Fiscal Year 2015 Water Year: 1937
103 - 2014 Initial Rate Case 10-29-2012

| LLH-MWh | Oct | Nov | Dec | Jan | Feb | Mar | Apr1 | Apr16 | May | Jun | Jul | Aug1 | Aug16 | Sep | Avg |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| 23 Contract Purchases | 171467 | 199706 | 270081 | 192230 | 163472 | 189084 | 84491 | 84377 | 189877 | 165201 | 184328 | 101833 | 117023 | 174864 | 2288035 |
| 24 Imports | 11330 | 21846 | 97476 | 21410 | 19599 | 19591 | 4417 | 4417 | 414 | 304 | 6088 | 20175 | 23361 | 5840 | 256267 |
| 25 Intra-Regional Transfers (In) | 6539 | 6033 | 4294 | 4539 | 1967 | 7911 | 4792 | 4792 | 11473 | 13941 | 12394 | 6050 | 7006 | 7845 | 99575 |
| 26 Non-Federal CER | 0 | 3808 | 3808 | 3808 | 0 | 0 | 0 | 0 | 3792 | 0 | 3792 | 0 | 0 | 3792 | 22800 |
| 27 Slice Transmission Loss Return | 7974 | 10727 | 11412 | 9382 | 7485 | 8958 | 4337 | 4223 | 13639 | 9067 | 8963 | 4663 | 4510 | 8029 | 113369 |
| 28 Augmentation Purchases | 145624 | 157292 | 153091 | 153091 | 134422 | 152625 | 70945 | 70945 | 160559 | 141890 | 153091 | 70945 | 82147 | 149357 | 1796024 |
| 29 Reserves & Losses | -54040 | -69098 | -72956 | -60714 | -50336 | -59456 | -29410 | -28792 | -87113 | -61235 | -62277 | -31634 | -31551 | -54153 | -752764 |
| 30 Contingency Reserves (Spinning) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 Contingency Reserves (Non-Spinning) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 32 Load Following Reserves | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33 Generation Imbalance Reserves | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34 Transmission Losses | -54040 | -69098 | -72956 | -60714 | -50336 | -59456 | -29410 | -28792 | -87113 | -61235 | -62277 | -31634 | -31551 | -54153 | -752764 |
| 35 Total Net Resources | 1862266 | 2381188 | 2514136 | 2092262 | 1734626 | 2048924 | 1013500 | 992189 | 3001999 | 2110223 | 2146114 | 1090153 | 1087271 | 1866158 | 25941009 |
| 36 Total Surplus/Deficit | -196701 | -164080 | -277111 | -571278 | -504411 | -292165 | -58724 | -74014 | 568134 | 60279 | -227583 | 2508 | -125293 | -246960 | -2107400 |

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