

2009 Pacific Northwest Loads & Resources Study

Operating Years 2010 through 2019

Technical Appendix Volume 1: Energy Analysis

July 2009



2009 PACIFIC NORTHWEST LOADS AND RESOURCES STUDY

The White Book

TECHNICAL APPENDIX

VOLUME 1

ENERGY ANALYSIS

**BONNEVILLE POWER ADMINISTRATION
July 2009**

Cover Picture:

Source: BPA Photo archive

Pictured is the overview of Bonneville Dam. Bonneville is one of the major dams on the Columbia River where it passes through the Cascade Mountains between Oregon and Washington. The dam, 2,690 ft (820 m) long and 197 ft (60 m) high, was built between 1933 and 1943 by the U.S. Corps of Engineers and was one of the largest hydroelectric projects undertaken under the New Deal. It is used for navigation, flood control, and power production. Locks permit ships to pass around the dam; fish ladders allow salmon to spawn upriver.

ACKNOWLEDGMENTS

Preparation of the annual Pacific Northwest loads and resources study is a complex, multidisciplinary effort. BPA wishes to acknowledge the team—BPA staff and others—whose diligence and dedication result in a reliable, high quality document.

Bonneville Power Administration

Generation Supply: Regional Coordination Group
Operational Planning Group

NW Requirements Marketing: Western Customer Services Group
Eastern Customer Services Group

Bulk Marketing and Transmission Services: Long Term Sales and
Purchasing Group

Customer Support Services: Load Forecasting and Analysis Group
Office of General Counsel

Pacific Northwest Utilities Conference Committee

Northwest Power & Conservation Council

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Loads and Resources Information System

**2009 Pacific Northwest Loads and Resources
For Operating Years 2010 Through 2019
Technical Appendix, Volume 1
Energy Analysis**

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Section 1
Annual Federal Table
Loads & Resources
Average Energy in Megawatts

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Loads & Resources Federal Table
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

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Loads and Resources Information System

Loads and Resources - Federal System
PNW Loads and Resource Study
2010 - 2019 Operating Years
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
Non-Utility Obligations										
<i>Fed. Agencies 2002 PSC</i>	120	123	19	0	0	0	0	0	0	0
<i>USBR 2002 PSC</i>	161	161	40	0	0	0	0	0	0	0
<i>DSI 2002 PSC</i>	17	17	2.8	0	0	0	0	0	0	0
<i>Fed. Agencies 2012 PSC</i>	0	0	106	127	136	144	147	176	198	200
<i>USBR 2012 PSC</i>	0	0	121	161	161	161	161	161	161	161
<i>DSI 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Non-Utility Obligations</i>	298	301	289	287	296	305	307	337	358	360
Transfers Out										
<i>NGP 2002 PSC</i>	3135	3191	506	0	0	0	0	0	0	0
<i>GPU 2002 PSC</i>	2249	2251	338	0	0	0	0	0	0	0
<i>NGP 2002 Slice PSC</i>	607	591	94	0	0	0	0	0	0	0
<i>GPU 2002 Slice PSC</i>	1011	984	156	0	0	0	0	0	0	0
<i>IOU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0
<i>NGP 2012 PSC</i>	0	0	2972	3596	3664	3727	3798	3864	3935	4005
<i>GPU 2012 PSC</i>	0	0	1462	1724	1749	1772	1817	1860	1905	1950
<i>NGP 2012 Slice PSC</i>	0	0	321	373	382	374	385	377	388	381
<i>GPU 2012 Slice PSC</i>	0	0	1310	1522	1559	1528	1570	1537	1582	1552
<i>IOU 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0
<i>Exports</i>	719	674	632	614	604	591	573	550	506	443
<i>Regional Transfers (Out)</i>	491	471	267	249	243	243	244	243	201	201
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0
<i>Total Transfers Out</i>	8212	8160	8058	8078	8200	8236	8387	8431	8516	8533
<i>Total Firm Obligations</i>	8510	8461	8347	8366	8497	8540	8694	8768	8875	8893
Hydro Resources										
<i>Regulated Hydro</i>	6455	6463	6491	6505	6513	6513	6514	6513	6514	6513
<i>Independent Hydro</i>	389	389	377	375	375	375	375	375	375	375
<i>Operational Peaking Adj.</i>	0	0	0	0	0	0	0	0	0	0
<i>Non-Fed CER (Canada)</i>	138	140	139	137	136	134	133	131	129	128
<i>Total Hydro Resources</i>	6983	6993	7007	7017	7024	7022	7022	7019	7019	7016
Other Resources										
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	0	0	0	0	0	0	0	0	0	0
<i>Renewables</i>	65	65	65	65	65	65	65	65	65	65
<i>Cogeneration</i>	23	23	23	23	23	23	16	0	0	0
<i>Imports</i>	249	241	241	241	241	241	237	221	192	161
<i>Regional Transfers (In)</i>	486	399	222	204	190	115	115	115	74	55
<i>Large Thermal</i>	1030	785	1030	878	1030	878	1030	878	1030	878
<i>Non-Utility Generation</i>	26	26	12	2.6	2.6	2.6	44	53	53	53
<i>Augmentation Purchases</i>	0	0	0	0	0	0	0	0	0	0
<i>Augmentation Resources</i>	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	1879	1539	1593	1413	1552	1324	1508	1332	1413	1211
<i>Total Resources</i>	8862	8532	8600	8431	8576	8346	8530	8351	8432	8227
Reserves & Maintenance										
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0
<i>Federal Hydro Maintenance</i>	0	0	0	0	0	0	0	0	0	0
<i>Federal Transmission Losses</i>	-250	-241	-243	-238	-242	-235	-241	-235	-238	-232

Continued

Loads and Resources - Federal System
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>Total Reserves, Maintenance & Losses</i>	-250	-241	-243	-238	-242	-235	-241	-235	-238	-232
<i>Total Net Resources</i>	8612	8291	8358	8193	8334	8111	8289	8116	8195	7995
<i>Total Firm Surplus/Deficit</i>	102	-170	11	-173	-163	-429	-405	-652	-680	-898

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Section 2
Annual Regional Table
Loads & Resources
Average Energy in Megawatts

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Loads & Resources Regional Table
Annual OY 2010 – 2019
Average Energy in Megawatts

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Loads and Resources Information System

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Loads and Resources - Pacific Northwest Region
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
Firm Regional Loads										
Regional Firm Loads	20693	21627	22038	22491	22989	23443	23766	24098	24409	24708
Exports	1303	1237	1193	1166	1154	1073	994	965	903	860
Federal Diversity	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Regional Loads</i>	21995	22865	23231	23657	24143	24515	24760	25063	25312	25567
Non-Firm Regional Loads										
Regional Non-Firm Loads	11	11	11	11	11	11	11	11	11	11
<i>Total Non-Firm Regional Loads</i>	11	11	11	11	11	11	11	11	11	11
<i>Total Loads</i>	22006	22875	23241	23668	24154	24526	24771	25074	25323	25578
Hydro Resources										
Regulated Hydro	10765	10773	10800	10814	10822	10821	10822	10821	10824	10821
Independent Hydro	1077	1084	1084	1085	1085	1087	1087	1088	1088	1088
Operational Peaking Adjustment	0	0	0	0	0	0	0	0	0	0
<i>Total Hydro Resources</i>	11842	11857	11884	11899	11907	11908	11909	11909	11911	11909
Other Resources										
Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0
Combustion Turbines	2824	2962	2969	2979	2958	2977	2967	2977	2956	2977
Renewables	991	1064	1097	1097	1098	1097	1096	1097	1097	1098
Cogeneration	2530	2536	2544	2537	2541	2535	2537	2537	2531	2543
Imports	1239	1137	1126	1057	976	981	959	948	924	899
Large Thermal	5981	5851	5970	5882	6052	5857	5991	5917	5968	5882
Non-Utility Generation	626	624	610	602	602	603	645	653	653	652
Resource Acquisition	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	14191	14175	14316	14155	14226	14050	14195	14130	14130	14050
<i>Total Resources</i>	26033	26031	26200	26054	26133	25958	26104	26038	26041	25959
Reserves & Maintenance										
Contingency Reserves (Non-Spinning)	0	0	0	0	0	0	0	0	0	0
Contingency Reserves (Spinning)	0	0	0	0	0	0	0	0	0	0
Generation Imbalance Reserves	0	0	0	0	0	0	0	0	0	0
Load Following Reserves	0	0	0	0	0	0	0	0	0	0
Regional Hydro Maintenance	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12
Regional Transmission Losses	-734	-734	-738	-734	-737	-732	-736	-734	-734	-732
<i>Total Reserves, Maintenance & Losses</i>	-746	-746	-751	-747	-749	-744	-748	-746	-746	-744
<i>Total Net Resources</i>	25287	25286	25449	25307	25384	25215	25356	25292	25295	25215
Surplus/Deficits										
Firm Surplus/Deficit	3292	2421	2219	1650	1241	699	596	229	-17	-352
<i>Total Surplus/Deficit</i>	3281	2410	2208	1639	1230	688	586	218	-27	-363

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Section 3

Annual OY 2010 – 2019

Average Energy in Megawatts ¹

	<u>Table Number</u>
Total Retail Loads	A-1
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Regulated Hydro Projects	A-3
Independent Hydro Projects	A-4
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Intra-Regional Transfers	A-16
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Rocky Reach & Rock Island Allocation	A-19
Wanapum & Priest Rapids Allocation	A-20
Swift #1 & Swift #2 Allocation	A-21
BPA Power Sale Contracts	A-22
Non-Utility Generating Resources by Owner	A-23
Non-Utility Generating Resources by Project and Project Type	A-24
Dedicated Resources	A-26
Other Dedicated Resources	A-27

¹ Tables A-11 through A-14 are obsolete and no longer available.

² Capacity Reserves are not applicable to energy.

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Table A-1
Total Retail Loads
Annual OY 2010 – 2019
Average Energy in Megawatts

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Table A-1: Pacific Northwest Total Retail Loads
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
Firm Loads										
<i>-Federal Entities-</i>										
1 Federal Entities	130	133	135	136	145	154	156	186	207	209
2 Total Federal Entities	130	133	135	136	145	154	156	186	207	209
<i>-U.S. Bureau of Reclamation-</i>										
3 U.S. Bureau of Reclamation	161	161	161	161	161	161	161	161	161	161
4 Total U.S. Bureau of Reclamation	161	161	161	161	161	161	161	161	161	161
<i>-Direct Service Industry-</i>										
5 Direct Service Industry	521	521	522	521	521	521	522	521	521	521
6 Total Direct Service Industry	521	521	522	521	521	521	522	521	521	521
<i>-Generating Public Entities-</i>										
7 Generating Public Entities	5096	5282	5401	5533	5614	5680	5744	5807	5873	5940
8 Total Generating Public Entities	5096	5282	5401	5533	5614	5680	5744	5807	5873	5940
<i>-Non-Generating Public Entities-</i>										
9 Non-Generating Public Entities	3744	3820	3894	3956	4014	4069	4131	4186	4246	4306
10 Total Non-Generating Public Entities	3744	3820	3894	3956	4014	4069	4131	4186	4246	4306
<i>-Investor-Owned Entities-</i>										
11 Investor-Owned Entities	10731	11401	11606	11786	12135	12457	12650	12833	12995	13165
12 Total Investor-Owned Entities	10731	11401	11606	11786	12135	12457	12650	12833	12995	13165
<i>-Other Firm Loads-</i>										
13 Other PNW Entities	310	310	319	398	400	401	403	404	405	407
14 Total Other Firm Loads	310	310	319	398	400	401	403	404	405	407
<i>-Total Regional Firm Loads-</i>										
15 Federal Entities	291	293	296	297	306	314	317	346	368	370
16 Direct Service Industry	521	521	522	521	521	521	522	521	521	521
17 Public Entities	8840	9102	9295	9490	9628	9749	9875	9993	10119	10245
18 Investor-Owned Entities	10731	11401	11606	11786	12135	12457	12650	12833	12995	13165
19 Other Entities	310	310	319	398	400	401	403	404	405	407
20 Total Regional Firm Loads	20693	21627	22038	22491	22989	23443	23766	24098	24409	24708
Non-Firm Loads										
<i>-Investor-Owned Entities-</i>										
21 Investor-Owned Entities	11	11	11	11	11	11	11	11	11	11
22 Total Investor-Owned Entities	11	11	11	11	11	11	11	11	11	11
<i>-Total Regional Non-Firm Loads-</i>										
23 Federal Entities	0	0	0	0	0	0	0	0	0	0
24 Direct Service Industry	0	0	0	0	0	0	0	0	0	0
25 Public Entities	0	0	0	0	0	0	0	0	0	0
26 Investor-Owned Entities	11	11	11	11	11	11	11	11	11	11
27 Total Regional Non-Firm Loads	11	11	11	11	11	11	11	11	11	11
<i>-Total Regional Loads-</i>										
28 Federal Entities	291	293	296	297	306	314	317	346	368	370
29 Direct Service Industry	521	521	522	521	521	521	522	521	521	521
30 Public Entities	8840	9102	9295	9490	9628	9749	9875	9993	10119	10245
31 Investor-Owned Entities	10742	11412	11617	11796	12145	12468	12660	12844	13006	13176
32 Other Entities	310	310	319	398	400	401	403	404	405	407
33 Total Regional Loads	20703	21638	22049	22502	23000	23454	23777	24108	24419	24718

Table A-2
Exports
Annual OY 2010 – 2019
Average Energy in Megawatts

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Table A-2: Regional Exports
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-Exports East of Continental Divide-</i>										
1 AVWP To PPLM PwrS	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
2 BPA To Other Entities	44	43	11	5.2	5.2	5.2	4.7	0	0	0
3 Total Exports To ECD	50	49	18	12	12	12	11	6.8	6.8	6.8
<i>-Exports to Pacific Southwest-</i>										
4 AVST To SMUD PwrS	75	75	75	75	75	31	0	0	0	0
5 BPA To Other Entities	32	32	32	32	32	32	32	32	32	15
6 BPA To PASA C/N/X	1.1	1.1	0.7	1.1	1.1	0.7	0	0	0	0
7 BPA To PASA S/N/X	0.4	0.4	0.4	0.4	0.4	0	0	0	0	0
8 BPA To RVSD CapS	2.9	0	0	0	0	0	0	0	0	0
9 BPA To RVSD C/N/X	1.7	0	0	0	0	0	0	0	0	0
10 BPA To RVSD C/N/X	4.9	4.9	1.8	4.9	4.9	4.9	4.0	0	0	0
11 BPA To RVSD S/Pwr/X	4.3	4.3	4.3	4.3	4.3	4.3	0	0	0	0
12 BURB To BURB PwrS	3.0	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
13 GLEN To GLEN PwrS	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
14 LDWP To LDWP PwrS	22	22	22	22	22	22	22	22	22	22
15 LDWP To LDWP PwrS	24	24	24	24	24	24	24	24	24	24
16 MACQ To BURB PwrS	4.3	4.3	4.2	4.3	4.3	4.3	4.2	4.3	4.3	4.3
17 Other Entities To Other Entities	64	64	64	64	64	64	64	64	64	64
18 PG&E To PG&E PwrS	28	28	28	28	28	28	28	28	28	31
19 PG&E To PG&E PwrS	27	27	27	27	27	27	27	27	27	27
20 PG&E To PG&E PwrS	0	0	0	0	0	0	0	0	0	16
21 PGE To GLEN PwrS	9.7	9.7	9.7	2.3	0	0	0	0	0	0
22 PGE To GLEN S/Pwr/X	3.5	3.5	1.8	0	0	0	0	0	0	0
23 PPL To REDD PwrS	15	11	11	11	11	11	6.0	0	0	0
24 PPL To SMUD PwrS	66	48	48	48	48	23	0	0	0	0
25 PSE To PG&E S/Pwr/X	47	47	47	47	47	47	47	47	47	47
26 SCL To NCPA S/Pwr/X	10	10	10	10	10	10	10	10	10	10
27 SDGE To SDGE PwrS	46	44	44	44	44	44	44	44	44	44
28 SMUD To SMUD PwrS	18	18	18	18	18	18	18	18	0	0
29 SMUD To SMUD PwrS	44	44	44	44	44	44	44	44	44	44
30 TID To TID PwrS	30	31	30	30	30	30	30	30	30	30
31 TID To TID PwrS	33	35	35	35	35	35	35	35	35	35
32 BPA NW-SW Intertie Losses	1.4	1.3	1.3	1.3	1.3	1.3	1.1	1.0	1.0	0.4
33 Total Exports To PSW	625	601	594	589	587	518	451	441	424	425
<i>-Exports to Inland Southwest-</i>										
34 BPA To SPP PwrS	60	60	12	60	60	60	60	60	31	0
35 Total Exports To ISW	60	60	12	60	60	60	60	60	31	0
<i>-Exports to Canada-</i>										
36 BPA To BCHP CanEnt	567	527	86	505	495	483	471	457	442	428
37 Total Exports To Canada	567	527	86	505	495	483	471	457	442	428
<i>-Exports to Other Entities-</i>										
38 Total Exports To Other Entities	0	0	0	0	0	0	0	0	0	0
<i>-Total Exports-</i>										
39 Federal Entities	719	674	632	614	604	591	573	550	506	443
40 Public Entities	254	258	257	257	257	257	257	257	239	239
41 Investor-Owned Entities	250	226	224	215	213	188	160	154	154	173
42 Other Entities	79	79	79	79	79	36	4.2	4.3	4.3	4.3
43 Total Exports.	1303	1237	1193	1166	1154	1073	994	965	903	860

Table A-3
Regulated Hydro Projects
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-3: Regional Regulated Hydro Projects
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-Regulated Hydro Projects-</i>										
1 Albeni Falls	27	27	27	27	27	27	27	27	27	27
2 Alder	21	21	20	21	21	21	20	21	21	21
3 Bonneville	407	407	409	409	409	408	409	408	409	408
4 Boundary	335	335	335	335	335	335	335	335	335	335
5 Box Canyon	47	47	47	47	47	47	47	47	47	47
6 Brownlee	239	239	239	239	239	239	239	239	239	239
7 Cabinet Gorge	85	85	85	85	85	85	85	85	85	85
8 Chelan	42	42	42	42	42	42	42	42	42	42
9 Chief Joseph	1069	1072	1084	1094	1103	1105	1105	1105	1105	1105
10 Cushman 1	12	12	12	12	12	12	12	12	12	12
11 Cushman 2	26	26	26	26	26	26	26	26	26	26
12 Diablo	85	85	85	85	85	85	85	85	85	85
13 Dworshak	149	149	148	149	149	149	148	149	149	149
14 Faraday	20	20	20	20	20	20	20	20	20	20
15 Gorge	99	99	99	99	99	99	99	99	99	99
16 Grand Coulee	1866	1870	1877	1879	1877	1869	1877	1869	1877	1869
17 Hells Canyon	190	190	190	190	190	190	190	190	190	190
18 Hungry Horse	83	83	83	83	83	83	83	83	83	83
19 Ice Harbor	171	171	171	171	171	171	171	171	171	171
20 John Day	796	796	799	799	799	802	799	802	799	802
21 Kerr	103	103	103	103	103	103	103	103	103	103
22 La Grande	34	34	34	34	34	34	34	34	34	34
23 Libby	184	184	184	184	184	184	184	184	184	184
24 Little Falls	18	18	18	18	18	18	18	18	18	18
25 Little Goose	204	204	204	205	205	205	205	205	205	205
26 Long Lake	42	42	42	42	42	42	42	42	42	42
27 Lower Baker	36	36	36	36	36	36	36	36	36	36
28 Lower Granite	198	198	198	199	199	199	199	199	199	199
29 Lower Monumental	198	198	198	198	198	198	198	198	198	198
30 Mayfield	69	69	69	69	69	69	69	69	69	69
31 McNary	499	499	501	501	501	503	501	503	501	503
32 Merwin	51	51	51	51	51	51	51	51	51	51
33 Monroe Street	10	10	10	10	10	10	10	10	10	10
34 Mossyrock	96	96	95	96	96	96	95	96	96	96
35 Nine Mile	12	12	12	12	12	12	12	12	12	12
36 North Fork	23	23	23	23	23	23	23	23	23	23
37 Noxon	125	125	125	125	125	125	125	125	125	125
38 Oak Grove	24	24	24	24	24	24	24	24	24	24
39 Oxbow	96	96	96	96	96	96	96	96	96	96
40 Pelton	38	38	38	38	38	38	38	38	38	38
41 Pelton Rereg. Dam	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
42 Post Falls	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
43 Priest Rapids	360	360	360	360	360	360	360	360	360	360
44 River Mill	11	11	11	11	11	11	11	11	11	11
45 Rock Island PH#1	171	171	171	171	170	170	170	170	170	170
46 Rock Island PH#2	131	131	131	131	131	132	131	132	131	132
47 Rocky Reach	537	537	537	537	536	536	537	536	536	536
48 Ross	77	77	77	77	77	77	77	77	77	77
49 Round Butte	96	96	96	96	96	96	96	96	96	96
50 Swift 1	61	61	61	61	61	61	61	61	61	61
51 Swift 2	22	22	22	22	22	22	22	22	22	22
52 The Dalles	606	606	608	608	608	610	608	610	608	610
53 Thompson Falls	49	49	49	49	49	49	49	49	49	49
54 Upper Baker	35	35	35	35	35	35	35	35	35	35
55 Upper Falls	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
56 Wanapum	358	358	358	358	358	358	358	358	358	358
57 Wells	345	345	345	345	345	345	345	345	345	345
58 Yale	57	57	57	57	57	57	57	57	57	57
Total Regulated Hydro w/Enc.	10765	10773	10800	10814	10822	10821	10822	10821	10824	10821

Continued

Table A-3: Regional Regulated Hydro Projects
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-Total Regulated Hydro w/Enc.-</i>										
59 Federal System	6455	6463	6491	6505	6513	6513	6514	6513	6514	6513
60 Public Entities	1785	1820	1942	1985	1985	1984	1984	1984	1985	1984
61 Investor-Owned Entities	2225	2176	2029	1917	1917	1917	1916	1917	1917	1917
62 Other Entities	300	313	337	408	408	408	408	408	408	408
63 Total Regulated Hydro w/Enc.	10765	10773	10800	10814	10822	10821	10822	10821	10824	10821

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Table A-4
Independent Hydro Projects
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2010 - 2019 Operating Years
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-Independent Hydro Projects-</i>										
1 American Falls	24	24	24	24	24	24	24	24	24	24
2 Anderson Ranch	16	16	16	16	16	16	16	16	16	16
3 Ashton	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
4 Bend Power Dam	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
5 Big Cliff	10	10	10	10	10	10	10	10	10	10
6 Big Fork	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
7 Black Canyon	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
8 Bliss	45	45	45	45	45	45	45	45	45	45
9 Boise River Diversion	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
10 Bonneville Fishway	21	21	21	21	21	21	21	21	21	21
11 Calispel Creek	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
12 Carmen-Smith	16	16	16	16	16	16	16	16	16	16
13 Cascade	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
14 Cedar Falls & Newhalem	10	10	10	10	10	10	10	10	10	10
15 Chandler	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
16 CJ Strike	53	53	53	53	53	53	53	53	53	53
17 Clear Lake	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
18 Cougar	17	17	17	17	17	17	17	17	17	17
19 Cowlitz Falls	26	26	26	26	26	26	26	26	26	26
20 Detroit	42	42	42	42	42	42	42	42	42	42
21 Dexter	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
22 Eagle Point	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
23 East Side	1.9	0.7	0	0	0	0	0	0	0	0
24 Felt	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
25 Foster	13	13	13	13	13	13	13	13	13	13
26 Gem State Hydro	14	14	14	14	14	14	14	14	14	14
27 Grace	23	23	23	23	23	23	23	23	23	23
28 Green Peter	28	28	28	28	28	28	28	28	28	28
29 Green Springs - USBR	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
30 Hellroaring (Big) Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
31 Hills Creek	18	18	18	18	18	18	18	18	18	18
32 Hood Street	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
33 Idaho Falls - City Plant	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
34 Idaho Falls - Lower Plant	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
35 Idaho Falls - Upper Plant	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
36 Island Park	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
37 Jackson	43	43	43	43	43	43	43	43	43	43
38 John C Boyle	35	35	35	35	35	35	35	35	35	35
39 Lake Creek	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
40 Last Chance	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
41 Leaburg	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
42 Lookout Point	36	36	36	36	36	36	36	36	36	36
43 Lost Creek	29	29	29	29	29	29	29	29	29	29
44 Lower Malad	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
45 Lower Salmon	28	28	28	28	28	28	28	28	28	28
46 McNary Fishway	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
47 Mill Creek (WA)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
48 Milner	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
49 Minidoka	15	15	15	15	15	15	15	15	15	15
50 Moyie Springs	2	2	2	2	2	2	2	2	2	2
51 North Umpqua	92	92	92	92	92	92	92	92	92	92
52 Oneida	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
53 Packwood	12	12	12	12	12	12	12	12	12	12
54 Palisades	65	65	65	65	65	65	65	65	65	65
55 Paris	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
56 Powerdale	0	0	0	0	0	0	0	0	0	0
57 Reeder Gulch	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
58 Rogue	36	36	36	36	36	36	36	36	36	36
59 Roza	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
60 Shoshone Falls	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
61 Smith Creek	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5

Table A-4: Regional Independent Hydro Projects
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
62 Snoq. Electron & Nooksack	46	46	46	46	46	46	46	46	46	46
63 Soda Creek	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
64 Soda Point Project	3	3	3.0	3	3	3	3.0	3	3	3
65 South Fork Tolt	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
66 Stone Creek	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
67 Strawberry Creek	1	1	1	1	1	1	1	1	1	1
68 Swan Falls	18	18	18	18	18	18	18	18	18	18
69 Swift Creek Hydro	0.6	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
70 The Dalles Fishway	4.5	4.5	4.4	4.5	4.5	4.5	4.4	4.5	4.5	4.5
71 Thousand Springs	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
72 Trail Bridge	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
73 TW Sullivan	10	14	14	14	14	14	14	14	14	14
74 Twin Falls	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
75 Upper Malad	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
76 Upper Salmon 1 & 2	19	19	19	19	19	19	19	19	19	19
77 Upper Salmon 3 & 4	16	16	16	16	16	16	16	16	16	16
78 Wallowa Falls	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
79 Walterville	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
80 West Side	0.3	0.1	0	0	0	0	0	0	0	0
81 Wynochee	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
82 Yelm	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
83 Arrowrock Hydro	0	4.1	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
84 Blue River	0	0	0	0	0	2.1	2.7	2.7	2.7	2.7
Total Independent Hydro w/Enc.	1077	1084	1084	1085	1085	1087	1087	1088	1088	1088
<i>-Total Independent Hydro W/Enc.-</i>										
85 Federal System	390	390	377	375	375	375	375	375	375	375
86 Public Entities	157	161	174	177	177	179	179	179	179	179
87 Investor-Owned Entities	530	533	532	532	532	532	532	532	532	532
88 Other Entities	0.6	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
89 Total Independent Hydro w/Enc.	1077	1084	1084	1085	1085	1087	1087	1088	1088	1088

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Table A-5
Imports
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-5: Regional Imports
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-Imports From East of Continental Divide-</i>										
1 BEPC To NWE PwrS	42	0	0	0	0	0	0	0	0	0
2 ECDMkr To Other Entities	129	130	132	133	135	136	138	139	140	142
3 Other Entities To IPC	11	11	11	3.8	0	0	0	0	0	0
4 PPL To BPA PwrS	160	160	11	160	160	160	160	160	160	160
5 Total Imports From ECD	341	301	154	297	294	296	298	299	300	301
<i>-Imports From Pacific Southwest-</i>										
6 GLEN To PGE S/Pwr/X	3.5	3.5	3.6	0	0	0	0	0	0	0
7 NCPA To SCL S/Pwr/X	12	12	13	12	12	12	13	12	12	12
8 PASA To BPA XchgNrg	1.9	1.9	0.3	1.9	1.9	1.9	0	0	0	0
9 PASA To BPA S/N/X	0.4	0.4	0.1	0.4	0.4	0.4	0	0	0	0
10 PASA To BPA PkRepl	1.1	1.1	0.7	1.1	1.1	0.7	0	0	0	0
11 PG&E To PSE S/Pwr/X	48	48	48	48	48	48	48	48	48	48
12 RVSD To BPA XchgNrg	3.2	0	0	0	0	0	0	0	0	0
13 RVSD To BPA PkRepl	2.9	0	0	0	0	0	0	0	0	0
14 RVSD To BPA PkRepl	1.7	0	0	0	0	0	0	0	0	0
15 RVSD To BPA XchgNrg	7.3	7.3	7.3	7.3	7.3	7.3	7.3	0	0	0
16 RVSD To BPA S/Pwr/X	4.3	4.3	4.3	4.3	4.3	4.3	4.3	0	0	0
17 RVSD To BPA PkRepl	4.9	4.9	1.8	4.9	4.9	4.9	4.0	0	0	0
18 SEMP To PSE PwrS	75	75	75	50	0	0	0	0	0	0
19 SUISSSE To PSE PwrS	50	50	50	33	0	0	0	0	0	0
20 WSPP To Other Entities	100	42	0	0	0	0	0	0	0	0
21 BARC To PSE PwrS	0	0	25	25	25	25	0	0	0	0
22 Total Imports From PSW	316	251	228	188	105	104	76	60	60	60
<i>-Imports From Inland Southwest-</i>										
23 SPP To BPA PwrS	60	60	12	60	60	60	60	60	31	0
24 UPL To UPL PwrS	462	466	470	474	478	482	486	490	494	499
25 Total Imports From ISW	522	526	482	534	538	542	546	550	525	499
<i>-Imports From Canada-</i>										
26 BCHP To BPA PwrS	1	1	0.2	1	1	1	1	1	1	1
27 BCHP To SCL PwrS	35	35	36	35	35	35	36	35	35	35
28 Other Entities To PSE	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
29 PWRX To PSE PwrS	21	21	21	0	0	0	0	0	0	0
30 Total Imports From Canada	59	59	59	39	39	39	39	39	39	39
<i>-Imports From Other Entities-</i>										
31 Total Imports From Other Entities	0	0	0	0	0	0	0	0	0	0
<i>-Total Imports-</i>										
32 Federal System	249	241	241	241	241	241	237	221	192	161
33 Public Entities	48	48	48	48	48	48	48	48	48	48
34 Investor-Owned Entities	714	676	705	635	552	557	536	540	544	549
35 Other Entities	229	172	132	133	135	136	138	139	140	142
36 Total Imports.	1239	1137	1126	1057	976	981	959	948	924	899

Table A-6
Small Thermal & Miscellaneous
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-6: Regional Small Thermal and Miscellaneous
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-Federal System-</i>										
1 Bangor Base #1 Diesel Generators	0	0	0	0	0	0	0	0	0	0
2 Bangor Base #2 Diesel Generators	0	0	0	0	0	0	0	0	0	0
3 Puget Sound Shipyards Diesel Generators	0	0	0	0	0	0	0	0	0	0
4 Total Federal System	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>										
5 Total Public Entities	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>										
6 Crystal Mountain	0	0	0	0	0	0	0	0	0	0
7 J.E. Corette	0	0	0	0	0	0	0	0	0	0
8 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>										
9 Total Other Entities	0	0	0	0	0	0	0	0	0	0
<i>-Small Thermal and Miscellaneous-</i>										
10 Federal System	0	0	0	0	0	0	0	0	0	0
11 Public Entities	0	0	0	0	0	0	0	0	0	0
12 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0
13 Other Entities	0	0	0	0	0	0	0	0	0	0
14 Total Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0

Table A-7
Combustion Turbines
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-7: Regional Combustion Turbines
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-Federal System-</i>										
1 Total Federal System	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>										
2 Boundary CT	0	0	0	0	0	0	0	0	0	0
3 Finley CT	0	0	0	0	0	0	0	0	0	0
4 Frederickson CT	113	113	113	113	113	113	113	113	113	113
5 Olympic View Generating Station	0	0	0	0	0	0	0	0	0	0
6 Pasco Harbor Generating Station	2	2	2	2	2	2	2	2	2	2
7 River Road	188	189	204	205	205	205	205	205	205	205
8 Springfield Gen Farm	0	0	0	0	0	0	0	0	0	0
9 Wauna Peaking Project (Loki)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
10 Total Public Entities	306	307	322	323	323	323	323	323	323	323
<i>-Investor-Owned Entities-</i>										
11 Basin Creek Project	4	4	4	4	4	4	4	4	4	4
12 Beaver	35	40	41	42	41	40	40	40	40	40
13 Beaver 8	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
14 Bennett Mountain	2.4	3.2	3.5	2.6	2.9	2.5	2.5	2.5	2.5	2.5
15 Boulder Park	23	23	23	23	23	23	23	23	23	23
16 Chehalis Generation Facility CCCT	375	375	375	375	375	375	375	375	375	375
17 Danskin 1	0.9	1	1.2	0.9	1	0.9	0.9	0.9	0.9	0.9
18 Danskin 2	2.4	3.2	3.5	2.6	2.8	2.4	2.5	2.5	2.5	2.5
19 Encogen	0	0	0	0	0	0	0	0	0	0
20 Frederickson 1&2	0	0	0	0	0	0	0	0	0	0
21 Frederickson CT	113	113	113	113	113	113	113	113	113	113
22 Fredonia 1&2	0	0	0	0	0	0	0	0	0	0
23 Fredonia 3&4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
24 Goldendale Energy Center	249	249	249	249	249	249	249	249	249	249
25 Kettle Falls (CT)	9.7	9.5	9.5	9.5	9.6	9.5	9.5	9.7	9.7	9.5
26 Lancaster Power Project (Rathdrum)	129	260	249	260	238	260	249	260	238	260
27 Mint Farm Energy Center	236	236	236	236	236	236	236	236	236	236
28 Northeastern 1 & 2	13	13	13	13	13	13	13	13	13	13
29 Port Westward CCCT	337	337	337	337	337	337	337	337	337	337
30 Rathdrum -Boekel Rd. #2	66	66	66	66	66	66	66	66	66	66
31 Rathdrum- Boekel Rd. #1	66	66	66	66	66	66	66	66	66	66
32 Whitehorn 2 & 3	0	0	0	0	0	0	0	0	0	0
33 Total Investor-Owned Entities	1661	1798	1790	1799	1777	1797	1786	1797	1775	1797
<i>-Other Entities-</i>										
34 Big Hanaford CCCT	223	223	223	223	223	223	223	223	223	223
35 Chehalis Generation Facility CCCT	0	0	0	0	0	0	0	0	0	0
36 Frederickson CT	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
37 Klamath Peaking Unit	14	14	14	14	14	14	14	14	14	14
38 Lancaster Power Project (Rathdrum)	0	0	0	0	0	0	0	0	0	0
39 Longview Fibre CT	36	36	36	36	36	36	36	36	36	36
40 Mint Farm Energy Center	0	0	0	0	0	0	0	0	0	0
41 Satsop	584	584	584	584	584	584	584	584	584	584
42 Total Other Entities	857	857	858	857	857	857	858	857	857	857
<i>-Combustion Turbines-</i>										
43 Federal System	0	0	0	0	0	0	0	0	0	0
44 Public Entities	306	307	322	323	323	323	323	323	323	323
45 Investor-Owned Entities	1661	1798	1790	1799	1777	1797	1786	1797	1775	1797
46 Other Entities	857	857	858	857	857	857	858	857	857	857
47 Total Combustion Turbines	2824	2962	2969	2979	2958	2977	2967	2977	2956	2977

Table A-8
Renewable Resources
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-8: Regional Renewable Resources
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
-Federal System-										
1 Condon Wind Project	11	11	11	11	11	11	11	11	11	11
2 Foote Creek 1	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
3 Foote Creek 2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
4 Foote Creek 4	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
5 Klondike I	8	8	8	8	8	8	8	8	8	8
6 Klondike III	17	17	17	17	17	17	17	17	17	17
7 Stateline Wind Project	22	22	22	22	22	22	22	22	22	22
8 Total Federal System	65	65	65	65	65	65	65	65	65	65
-Public Entities-										
9 Big Horn	64	64	64	64	64	64	64	64	64	64
10 Coffin Butte	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
11 Foote Creek 1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
12 Hay Canyon Wind	36	36	36	36	36	36	36	36	36	36
13 Klondike III	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
14 Nine Canyon Wind Project	28	28	28	28	28	28	28	28	28	28
15 Pebble Springs Wind Project	31	31	31	31	31	31	31	31	31	31
16 Roosevelt Landfill (H.W. Hill)	8	8	8	8	8	8	8	8	8	8
17 Short Mountain	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
18 Stateline Wind Project	43	43	43	43	43	43	43	43	43	43
19 Tuolumne Wind	35	35	35	35	35	35	35	35	35	35
20 Wheatfield Wind	32	32	32	32	32	32	32	32	32	32
21 White Creek	72	73	72	73	73	72	72	72	73	73
22 Willow Creek Wind	24	24	24	24	24	24	24	24	24	24
23 Total Public Entities	392	392	392	392	392	392	392	392	392	392
-Investor-Owned Entities-										
24 Bennett Creek Wind	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
25 Biglow Canyon Phase I	43	43	43	43	43	43	43	43	43	43
26 Biglow Canyon Phase II	0	30	44	44	44	44	44	44	44	44
27 Cassia Farms Wind	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
28 Cassia Gulch Wind	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
29 Elkhorn Valley Wind Farm	25	25	25	25	25	25	25	25	25	25
30 Eurus Combine Hills	14	14	14	14	14	14	14	14	14	14
31 Foote Creek 1	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
32 Fossil Gulch Wind Project	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
33 Goodnoe Hills	24	24	24	24	24	24	24	24	24	24
34 Hopkins Ridge I	44	44	44	44	44	44	44	44	44	44
35 Hopkins Ridge II	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
36 Horseshoe Bend Wind Park	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
37 Hot Springs Wind	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
38 Kettle Falls (biomass)	43	43	43	42	42	42	42	42	42	42
39 Klondike II	22	23	22	23	23	23	23	23	22	23
40 Klondike III	49	49	49	49	49	49	49	49	49	49
41 Klondike IIIa	27	28	27	27	27	27	27	27	27	27
42 Leaning Juniper	34	34	34	34	34	34	34	34	34	34
43 Marengo I Wind Project	32	32	32	32	32	32	32	32	32	32
44 Marengo II Wind Project	16	16	16	16	16	16	16	16	16	16
45 Rattlesnake Road Wind Farm	27	27	27	27	27	27	27	27	27	27
46 Rock River I Wind	12	12	12	12	12	12	12	12	12	12
47 Stateline Wind Project	8.6	8.6	5.4	0	0	0	0	0	0	0
48 Vansycle Wind	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
49 Wild Horse I	57	57	57	57	57	57	57	57	57	57
50 Wolverine Creek	16	16	16	16	16	16	16	16	16	16
51 Biglow Canyon Phase III	0	35	51	52	52	52	51	52	52	52
52 Wild Horse II	0	7.5	11	11	11	11	11	11	11	11
53 Total Investor-Owned Entities	533	606	636	630	631	630	630	630	630	631
-Other Entities-										
54 Klondike III	0	0	0	0	0	0	0	0	0	0
55 Klondike IIIa	0	0	0	0	0	0	0	0	0	0

Continued

Table A-8: Regional Renewable Resources
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
56 Stateline Wind Project	0	0	3.1	8.6	8.6	8.6	8.6	8.6	8.6	8.6
57 White Creek	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
58 Total Other Entities	1.1	1.1	4.2	9.7	9.7	9.7	9.7	9.7	9.7	9.7
<i>-Renewable Resources-</i>										
59 Federal System	65	65	65	65	65	65	65	65	65	65
60 Public Entities	392	392	392	392	392	392	392	392	392	392
61 Investor-Owned Entities	533	606	636	630	631	630	630	630	630	631
62 Other Entities	1.1	1.1	4.2	9.7	9.7	9.7	9.7	9.7	9.7	9.7
63 Total Renewable Resources	991	1064	1097	1097	1098	1097	1096	1097	1097	1098

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Table A-9
Cogeneration
Annual OY 20109 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-9: Regional Cogeneration
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
-Federal System-										
1 Georgia-Pacific Paper (Wauna)	23	23	23	23	23	23	16	0	0	0
2 Total Federal System	23	23	23	23	23	23	16	0	0	0
-Public Entities-										
3 Grays Harbor Paper (Grays Harbor Paper)	15	15	15	15	15	15	15	15	15	15
4 Hampton Lumber Mill (Darrington)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	1.5	0	0
5 Klamath Cogeneration Project	0	0	0	0	0	0	0	0	0	0
6 Sierra Pacific Aberdeen (Sierra Pacific)	14	14	14	14	14	14	14	14	14	14
7 Sierra Pacific Burlington	26	26	26	26	26	26	26	26	26	26
8 Simpson Tacoma CoGen	44	44	44	44	44	44	44	44	44	44
9 WEYCO Energy Center	19	22	22	22	22	22	22	22	22	22
10 Total Public Entities	122	124	124	124	124	124	124	122	121	121
-Investor-Owned Entities-										
11 Coyote Springs #1	203	203	203	203	203	203	203	203	203	203
12 Coyote Springs #2	249	249	260	260	262	249	260	260	249	250
13 Georgia-Pacific Paper (Camas)	9.6	10	9.7	10	9.7	10	9.2	10	9.7	10
14 Hermiston Cogeneration	420	425	407	399	401	408	399	401	408	399
15 Sumas Energy	112	112	112	112	112	112	112	112	112	112
16 Tenaska Gas Cogen	147	147	147	147	147	147	147	147	147	147
17 Thompson River Co-Gen	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
18 Total Investor-Owned Entities	1151	1156	1150	1142	1146	1140	1141	1144	1139	1132
-Other Entities-										
19 Coyote Springs #2	0	0	0	0	0	0	0	0	0	0
20 Georgia Pacific Toledo	16	16	16	16	16	16	16	16	16	16
21 Georgia-Pacific Paper (Wauna)	0	0	0	0	0	0	6.7	23	23	23
22 Hermiston Power Project	567	567	567	567	567	567	567	567	567	567
23 Klamath Cogeneration Project	435	435	435	435	435	435	435	435	435	455
24 Longview Fibre Cogen 1-7	20	18	32	34	34	34	34	34	34	34
25 Simpson Tacoma CoGen	0	0	0	0	0	0	0	0	0	0
26 SP Newsprint Cogen	104	104	104	104	104	104	104	104	104	104
27 Wah Chang (Albany, OR)	12	12	12	12	12	12	12	12	12	12
28 WEYCO Energy Center	0	0	0	0	0	0	0	0	0	0
29 Weyerhaeuser Albany (Weyerhaeuser)	45	45	45	45	45	45	45	45	45	45
30 Weyerhaeuser Longview (Weyerhaeuser)	35	35	35	35	35	35	35	35	35	35
31 Total Other Entities	1234	1233	1247	1249	1249	1249	1255	1271	1271	1291
-Cogeneration-										
32 Federal System	23	23	23	23	23	23	16	0	0	0
33 Public Entities	122	124	124	124	124	124	124	122	121	121
34 Investor-Owned Entities	1151	1156	1150	1142	1146	1140	1141	1144	1139	1132
35 Other Entities	1234	1233	1247	1249	1249	1249	1255	1271	1271	1291
36 Total Cogeneration	2530	2536	2544	2537	2541	2535	2537	2537	2531	2543

Table A-10
Large Thermal
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-10: Regional Large Thermal
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
-Boardman: Coal-										
1 Idaho Power Company	30	31	30	30	30	30	30	30	30	30
2 Portland General Electric	192	203	196	196	196	196	196	196	196	196
3 San Diego Gas & Electric	44	46	44	44	44	44	44	44	44	44
4 Turlock Irrigation District	30	31	30	30	30	30	30	30	30	30
5 Boardman: Regional Total	295	312	300	300	300	300	300	300	300	300
-Centralia #1: Coal-										
6 TransAlta Energy Marketing	554	626	577	626	577	626	554	626	577	626
7 Centralia #1: Regional Total	554	626	577	626	577	626	554	626	577	626
-Centralia #2: Coal-										
8 TransAlta Energy Marketing	626	554	626	577	626	577	626	554	626	577
9 Centralia #2: Regional Total	626	554	626	577	626	577	626	554	626	577
-Colstrip #1: Coal-										
10 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0
11 Puget Sound Energy	136	134	134	133	134	134	133	134	134	133
12 Colstrip #1: Regional Total	136	134	134	133	134	134	133	134	134	133
-Colstrip #2: Coal-										
13 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0
14 Puget Sound Energy	136	134	134	133	134	134	133	134	134	133
15 Colstrip #2: Regional Total	136	134	134	133	134	134	133	134	134	133
-Colstrip #3: Coal-										
16 Avista Corp (WWP Division)	92	103	100	92	103	100	92	103	100	92
17 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0
18 Pacific Power	61	69	66	61	69	66	61	69	66	61
19 Portland General Electric	123	137	133	123	137	133	123	137	133	123
20 Puget Sound Energy	153	172	166	153	172	166	153	172	166	153
21 Colstrip #3: Regional Total	430	481	464	430	481	464	430	481	464	430
-Colstrip #4: Coal-										
22 Avista Corp (WWP Division)	106	106	94	106	106	94	106	106	94	106
23 Northwestern Energy LLC (MPC)	211	211	187	211	211	187	211	211	187	211
24 Pacific Power	70	70	62	70	70	62	70	70	62	70
25 Portland General Electric	141	141	125	141	141	125	141	141	125	141
26 Puget Sound Energy	176	176	156	176	176	156	176	176	156	176
27 Colstrip #4: Regional Total	705	705	624	705	705	624	705	705	624	705
-Columbia Generating Station: Uranium-										
28 BPA - Power Business	1030	785	1030	878	1030	878	1030	878	1030	878
29 Columbia Generating Station: Regional Total	1030	785	1030	878	1030	878	1030	878	1030	878
-Jim Bridger #1: Coal-										
30 Idaho Power Company	142	161	158	160	142	161	153	161	150	160
31 Pacific Power	284	322	317	319	284	322	305	322	301	319
32 Jim Bridger #1: Regional Total	426	483	475	479	427	483	458	483	451	479
-Jim Bridger #2: Coal-										
33 Idaho Power Company	163	158	163	152	163	158	163	152	163	152
34 Pacific Power	325	315	325	304	325	315	325	304	325	304
35 Jim Bridger #2: Regional Total	488	473	488	457	488	473	488	457	488	457
-Jim Bridger #3: Coal-										
36 Idaho Power Company	159	159	159	159	159	159	159	159	159	159
37 Pacific Power	318	318	318	318	318	318	318	318	318	318

Continued

Table A-10: Regional Large Thermal
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
38 Jim Bridger #3: Regional Total	477	477	477	477	477	477	477	477	477	477
-Jim Bridger #4: Coal-										
39 Idaho Power Company	150	154	138	154	149	154	143	154	146	154
40 Pacific Power	301	307	276	307	298	307	287	307	291	307
41 Jim Bridger #4: Regional Total	451	461	414	461	447	461	430	461	437	461
-Valmy #1: Coal-										
42 Idaho Power Company	110	110	110	110	110	110	110	110	110	110
43 Valmy #1: Regional Total	110	110	110	110	110	110	110	110	110	110
-Valmy #2: Coal-										
44 Idaho Power Company	116	116	116	116	116	116	116	116	116	116
45 Valmy #2: Regional Total	116	116	116	116	116	116	116	116	116	116
-Total Large Thermal-										
46 Federal System	1030	785	1030	878	1030	878	1030	878	1030	878
47 Public Entities	30	31	30	30	30	30	30	30	30	30
48 Investor-Owned Entities	3741	3855	3707	3771	3789	3746	3750	3828	3705	3771
49 Other Entities	1181	1181	1203	1203	1203	1203	1181	1181	1203	1203
50 Non-NW Entities	0	0	0	0	0	0	0	0	0	0
51 Total Large Thermal	5981	5851	5970	5882	6052	5857	5991	5917	5968	5882

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Table A-15
Canadian Entitlement Return for Canada
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-15: Canadian Entitlement Return For Canada
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-BPA Canada-</i>										
1 BPA: Regional Totals	0	0	0	0	0	0	0	0	0	0
<i>-Priest Rapids CER for Canada-</i>										
2 AVWP to BPA	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1
3 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4 EWEB to BPA	0.1	0	0	0	0	0	0	0	0	0
5 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6 GCPD to BPA	18	19	18	18	18	18	18	17	17	17
7 KITT to BPA	0.1	0	0	0	0	0	0	0	0	0
8 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10 PGE to BPA	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.4	2.4	2.4
11 PNWMtr to BPA	6.3	6.1	6.1	6.0	5.9	5.9	5.8	5.7	5.7	5.6
12 PPL to BPA	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
13 PSE to BPA	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15 TPU to BPA	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
16 Priest Rapids: Regional Totals	30	30	30	30	29	29	29	28	28	28
<i>-Wanapum CER for Canada-</i>										
17 AVWP to BPA	1.5	1.1	1.1	1.1	1.1	1	1	1	1	1.0
18 COPD to BPA	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
19 EWEB to BPA	0.2	0	0	0	0	0	0	0	0	0
20 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 GCPD to BPA	15	18	18	17	17	17	17	17	16	16
22 KITT to BPA	0	0	0	0	0	0	0	0	0	0
23 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
24 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25 PGE to BPA	3.3	2.5	2.5	2.4	2.4	2.4	2.4	2.3	2.3	2.3
26 PNWMtr to BPA	4.4	5.9	5.8	5.7	5.7	5.6	5.6	5.5	5.4	5.3
27 PPL to BPA	1.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
28 PSE to BPA	1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
29 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31 Wanapum: Regional Totals	29	29	29	28	28	28	27	27	27	26
<i>-Rock Island P.H. #1 CER for Canada-</i>										
32 APGI to BPA	0	0	0.2	2.9	2.8	2.8	2.7	2.7	2.7	2.6
33 CHPD to BPA	5.5	5.6	5.5	5.4	5.3	5.3	5.2	5.1	5.1	5.0
34 PSE to BPA	5.5	5.6	5.3	2.7	2.7	2.7	2.6	2.6	2.6	2.5
35 Rock Island P.H. #1: Regional Totals	11	11	11	11	11	11	11	10	10	10
<i>-Rock Island P.H. #2 CER for Canada-</i>										
36 APGI to BPA	0	0	0.2	1.8	1.8	1.8	1.8	1.7	1.7	1.7
37 CHPD to BPA	3.5	3.6	3.5	3.4	3.4	3.3	3.3	3.3	3.2	3.2
38 PSE to BPA	3.5	3.6	3.4	1.7	1.7	1.7	1.7	1.7	1.7	1.6
39 Rock Island P.H. #2: Regional Totals	7.1	7.2	7.1	7.0	6.9	6.8	6.8	6.7	6.6	6.5
<i>-Rocky Reach CER for Canada-</i>										
40 APGI to BPA	8.6	8.8	9.9	9.7	9.6	9.5	9.4	9.3	9.1	9
41 AVWP to BPA	1.1	1.1	0.3	0	0	0	0	0	0	0
42 CHPD to BPA	5.7	5.8	13	16	16	16	16	15	15	15
43 DOPD to BPA	1	1	1.8	2.1	2	2	2.0	2.0	1.9	1.9
44 PGE to BPA	4.5	4.6	1.1	0	0	0	0	0	0	0
45 PPL to BPA	2.0	2	0.5	0	0	0	0	0	0	0
46 PSE to BPA	15	15	11	9.3	9.2	9.1	9	8.9	8.8	8.7
47 Rocky Reach: Regional Totals	38	38	38	37	37	36	36	36	35	35
<i>-Wells CER for Canada-</i>										

Table A-15: Canadian Entitlement Return For Canada
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
48 AVWP to BPA	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7
49 COLV to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1	1	1	1
50 DOPD to BPA	6.9	7	7.0	6.9	6.8	6.7	6.7	6.6	6.5	6.4
51 OKPD to BPA	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.7
52 PGE to BPA	4.7	4.8	4.7	4.7	4.6	4.6	4.5	4.5	4.4	4.3
53 PPL to BPA	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5
54 PSE to BPA	7.2	7.4	7.3	7.2	7.1	7	7.0	6.9	6.8	6.7
55 Wells: Regional Totals	24	25	24	24	24	24	23	23	23	22
<i>-Total CER For Canada-</i>										
56 Federal System	0	0	0	0	0	0	0	0	0	0
57 Public Entities	61	65	72	75	74	73	72	72	71	70
58 Investor-Owned Entities	58	55	44	36	36	35	35	35	34	34
59 Other Entities	19	21	22	26	26	26	25	25	25	24
60 Non-NW Entities	0	0	0	0	0	0	0	0	0	0
61 Total CER For Canada	138	140	139	137	136	134	133	131	129	128

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Table A-16
Intra-Regional Transfers
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-16: Regional Intra-Regional Transfers
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-Intra-Regional Transfers-</i>										
1 APGI To PPL C/N/X	24	22	0	0	0	0	0	0	0	0
2 AVWP To BPA WP3Set	42	42	42	42	42	42	42	42	0	0
3 AVWP To PGE CapS	45	45	45	45	45	45	45	19	0	0
4 BPA To AVWP WP3Set	42	42	42	42	42	42	42	42	0	0
5 BPA To CCPD SFIBlk	0	0	0	0	0	0	0	0	0	0
6 BPA To Other Entities	56	36	1.6	0	0	0	0	0	0	0
7 BPA To PPL PwrS	160	160	160	160	160	160	160	160	160	160
8 BPA To PPL CapS	186	186	16	0	0	0	0	0	0	0
9 BPA To PPL S/Pwr/X	5.7	5.7	5.7	5.7	0	0	0	0	0	0
10 BPA To PPL S/N/X	0	0	0	0	0	0	0	0	0	0
11 BPA To PSE WP3Set	42	42	42	42	42	42	42	42	42	42
12 BPA To PSE PwrS	0.6	0	0	0	0	0	0	0	0	0
13 CCPD To Other Entities	0	0	0	0	0	0	0	0	0	0
14 CHPD To PGE S/N/X	6.7	3.7	0	0	0	0	0	0	0	0
15 CIDF To UPL PwrS	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
16 DOPD To Other Entities	0	0	0	0	0	0	0	0	0	0
17 EWEB To PGE CapS	3	3	3	3	2.5	0	0	0	0	0
18 GCPD To AVWP PwrS	22	22	3.2	0	0	0	0	0	0	0
19 GCPD To EWEB PwrS	6.2	6.2	0.9	0	0	0	0	0	0	0
20 GCPD To FGRV PwrS	1.6	1.4	0.3	0	0	0	0	0	0	0
21 GCPD To FREC PwrS	0.7	0.7	0.2	0	0	0	0	0	0	0
22 GCPD To KITT PwrS	0.8	0.6	0.1	0	0	0	0	0	0	0
23 GCPD To KOOT PwrS	1	1	0.2	0	0	0	0	0	0	0
24 GCPD To LVE PwrS	1	1	0.2	0	0	0	0	0	0	0
25 GCPD To LVE PwrS	0	0	0	0	0	0	0	0	0	0
26 GCPD To MCMN PwrS	1.6	1.4	0.3	0	0	0	0	0	0	0
27 GCPD To MTRF PwrS	1.6	1.4	0.3	0	0	0	0	0	0	0
28 GCPD To PGE PwrS	50	50	7.3	0	0	0	0	0	0	0
29 GCPD To PPL PwrS	50	50	7.3	0	0	0	0	0	0	0
30 GCPD To PPL PwrS	10.0	10	10.0	10	10.0	10	10.0	10	10.0	10
31 GCPD To PSE PwrS	29	29	4.2	0	0	0	0	0	0	0
32 GCPD To TPU PwrS	15	12	1.8	0	0	0	0	0	0	0
33 GHPD To GHP PwrS	15	15	15	15	15	15	15	15	15	15
34 NWCP To PSE PwrS	4.1	4.1	3.7	1.4	0	0	0	0	0	0
35 NWE To MVP PwrS	9.7	9.7	9.6	9.7	9.7	9.7	9.6	9.7	9.7	9.7
36 NWE To PSE PwrS	83	35	0	0	0	0	0	0	0	0
37 Other Entities To AVWP	100	42	0	0	0	0	0	0	0	0
38 Other Entities To BPA	211	124	117	115	101	32	32	32	32	13
39 Other Entities To DOPD	24	27	16	18	20	22	25	9.0	0	0
40 Other Entities To PGE	123	117	96	92	92	92	92	15	0	0
41 PGE To AVWP PkRepl	45	45	45	45	45	45	45	19	0	0
42 PGE To CHPD S/N/X	8.1	6.4	0	0	0	0	0	0	0	0
43 PGE To EWEB PkRepl	3	3	3	3	2.5	0	0	0	0	0
44 PGE To PPL Cove Repl	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
45 PPL To APGI C/N/X	24	22	0	0	0	0	0	0	0	0
46 PPL To APGI C/N/X	6.7	6.7	0	0	0	0	0	0	0	0
47 PPL To BPA S/Pwr/X	5.7	5.7	5.7	5.7	5.7	0	0	0	0	0
48 PPL To BPA S/N/X	0	0	0	0	0	0	0	0	0	0
49 PPL To BPA PkRepl	186	186	16	0	0	0	0	0	0	0
50 PSE To BPA WP3Set	42	42	42	42	42	42	42	42	42	42
51 SCL To POPD PwrS	42	42	42	42	42	42	42	42	42	42
52 SHPD To PSE PwrS	4.6	0	0	0	0	0	0	0	0	0
53 SPN To PGE PwrS	104	104	104	104	104	104	104	104	104	104
54 TAUC To AVWP PwrS	177	173	180	181	180	181	177	188	188	79
55 Total Intra-Regional Transfers	2025	1787	1092	1027	1007	930	930	795	650	522
<i>-Total Contracts Out-</i>										
56 Federal System	491	471	267	249	243	243	244	243	201	201
57 Public Entities	282	269	107	77	75	72	72	72	72	72
58 Investor-Owned Entities	837	759	526	510	509	488	484	366	272	144
59 Other Entities	414	289	193	192	180	126	129	113	104	104

Continued

Table A-16: Regional Intra-Regional Transfers
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
60 Total Contracts Out	2025	1787	1092	1027	1007	930	930	795	650	522
<i>-Total Contracts In-</i>										
61 Federal System	495	409	231	214	200	125	125	125	83	64
62 Public Entities	143	140	66	63	65	65	67	51	42	42
63 Investor-Owned Entities	1341	1196	780	735	728	725	722	604	510	401
64 Other Entities	30	28	0	0	0	0	0	0	0	0
65 Total Contracts In	2010	1773	1078	1013	992	915	915	780	635	507

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Table A-17
Capacity Reserves
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Capacity Reserves are not applicable to energy.

Reports Powered by:



Loads and Resources Information System

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
Hydro Reserves										
-Federal Entities-										
19 BPA - Power Business	0	0	0	0	0	0	0	0	0	0
20 Mission Valley	0	0	0	0	0	0	0	0	0	0
21 Total Federal Entities	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-										
130 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0
131 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0
132 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0
133 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0
134 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0
135 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0
136 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0
137 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0
138 Pend Oreille County PUD #1	0	0	0	0	0	0	0	0	0	0
139 Seattle City Light	0	0	0	0	0	0	0	0	0	0
140 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0
141 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0
142 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-										
367 Ashland, City of	0	0	0	0	0	0	0	0	0	0
368 Bonners Ferry, City of	0	0	0	0	0	0	0	0	0	0
369 Centralia, City of	0	0	0	0	0	0	0	0	0	0
370 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0
371 Colville Tribes	0	0	0	0	0	0	0	0	0	0
372 Consumers Power	0	0	0	0	0	0	0	0	0	0
373 Emerald County PUD	0	0	0	0	0	0	0	0	0	0
374 Energy Northwest	0	0	0	0	0	0	0	0	0	0
375 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0
376 Forest Grove, City of	0	0	0	0	0	0	0	0	0	0
377 Idaho Falls Power	0	0	0	0	0	0	0	0	0	0
378 Kittitas County PUD #1	0	0	0	0	0	0	0	0	0	0
379 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0
380 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0
381 Lower Valley Energy	0	0	0	0	0	0	0	0	0	0
382 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0
383 McMinnville, City of	0	0	0	0	0	0	0	0	0	0
384 Milton-Freewater, City of	0	0	0	0	0	0	0	0	0	0
385 Northern Lights	0	0	0	0	0	0	0	0	0	0
386 Northern Wasco County PUD	0	0	0	0	0	0	0	0	0	0
387 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0
388 Soda Springs, City of	0	0	0	0	0	0	0	0	0	0
389 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0
390 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0
391 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0
392 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0
-Investor-Owned Entities-										
456 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0
457 Idaho Power Company	0	0	0	0	0	0	0	0	0	0
458 Pacific Power	0	0	0	0	0	0	0	0	0	0
459 Portland General Electric	0	0	0	0	0	0	0	0	0	0
460 PPL Montana, LLC	0	0	0	0	0	0	0	0	0	0
461 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0
462 Utah Power	0	0	0	0	0	0	0	0	0	0
463 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0
-Other Entities-										

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2010 - 2019 Operating Years
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
518 Alcoa Power Generating Inc	0	0	0	0	0	0	0	0	0	0
519 Colockum Transmission Company	0	0	0	0	0	0	0	0	0	0
520 Longview Fibre	0	0	0	0	0	0	0	0	0	0
521 Unknown Entity	0	0	0	0	0	0	0	0	0	0
522 UnKnown PNW Marketer	0	0	0	0	0	0	0	0	0	0
523 Warm Springs Power Enterprise	0	0	0	0	0	0	0	0	0	0
524 Total Other Entities	0	0	0	0	0	0	0	0	0	0
<u>Small Thermal & Misc. Reserves</u>										
<u>-Federal Entities-</u>										
561 BPA - Power Business	0	0	0	0	0	0	0	0	0	0
562 Mission Valley	0	0	0	0	0	0	0	0	0	0
563 U.S. Naval Station, Everett (Jim Creek)	0	0	0	0	0	0	0	0	0	0
564 U.S. Naval Submarine Base, Bangor	0	0	0	0	0	0	0	0	0	0
565 Total Federal Entities	0	0	0	0	0	0	0	0	0	0
<u>-Generating Public Entities-</u>										
728 Burbank, City of	0	0	0	0	0	0	0	0	0	0
729 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0
730 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0
731 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0
732 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0
733 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0
734 Glendale, City of	0	0	0	0	0	0	0	0	0	0
735 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0
736 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0
737 Los Angeles Dept of Water	0	0	0	0	0	0	0	0	0	0
738 M-S-R	0	0	0	0	0	0	0	0	0	0
739 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0
740 Sacramento Municipal Utility District	0	0	0	0	0	0	0	0	0	0
741 Seattle City Light	0	0	0	0	0	0	0	0	0	0
742 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0
743 Springfield Utility Board	0	0	0	0	0	0	0	0	0	0
744 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0
745 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0
746 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0
<u>-Non-Generating Public Entities-</u>										
927 Ashland, City of	0	0	0	0	0	0	0	0	0	0
928 Benton County PUD #1	0	0	0	0	0	0	0	0	0	0
929 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0
930 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0
931 Consumers Power	0	0	0	0	0	0	0	0	0	0
932 Emerald County PUD	0	0	0	0	0	0	0	0	0	0
933 Energy Northwest	0	0	0	0	0	0	0	0	0	0
934 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0
935 Franklin County PUD #1	0	0	0	0	0	0	0	0	0	0
936 Klamath Falls, City of	0	0	0	0	0	0	0	0	0	0
937 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0
938 Lakeview L & P (WA)	0	0	0	0	0	0	0	0	0	0
939 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0
940 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0
941 Mason County PUD #3	0	0	0	0	0	0	0	0	0	0
942 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0
943 Portland, City of	0	0	0	0	0	0	0	0	0	0
944 Spokane, City of	0	0	0	0	0	0	0	0	0	0
945 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0
946 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0
947 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0
<u>-Investor-Owned Entities-</u>										

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
1020 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0
1021 Idaho Power Company	0	0	0	0	0	0	0	0	0	0
1022 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0
1023 Pacific Gas & Electric	0	0	0	0	0	0	0	0	0	0
1024 Pacific Power	0	0	0	0	0	0	0	0	0	0
1025 Portland General Electric	0	0	0	0	0	0	0	0	0	0
1026 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0
1027 Utah Power	0	0	0	0	0	0	0	0	0	0
1028 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>										
1209 Avista Energy Inc.	0	0	0	0	0	0	0	0	0	0
1210 Boise Cascade Corporation	0	0	0	0	0	0	0	0	0	0
1211 Chehalis Power Inc.	0	0	0	0	0	0	0	0	0	0
1212 Covanta Energy Corporation	0	0	0	0	0	0	0	0	0	0
1213 Frederickson Power LP,	0	0	0	0	0	0	0	0	0	0
1214 Georgia-Pacific West, Inc.	0	0	0	0	0	0	0	0	0	0
1215 Grays Harbor Energy LLC	0	0	0	0	0	0	0	0	0	0
1216 Hermiston Power Partnership	0	0	0	0	0	0	0	0	0	0
1217 Iberdrola Renewables	0	0	0	0	0	0	0	0	0	0
1218 King County Property Services	0	0	0	0	0	0	0	0	0	0
1219 Longview Fibre	0	0	0	0	0	0	0	0	0	0
1220 Macquarie Cook Power, Inc.	0	0	0	0	0	0	0	0	0	0
1221 Mirant Americas Energy Marketing, L.P.	0	0	0	0	0	0	0	0	0	0
1222 Oremet - Wah Chang	0	0	0	0	0	0	0	0	0	0
1223 Pacific Klamath Energy	0	0	0	0	0	0	0	0	0	0
1224 SP Newsprint	0	0	0	0	0	0	0	0	0	0
1225 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0
1226 Wayzata Investment Partners	0	0	0	0	0	0	0	0	0	0
1227 Weyerhaeuser Company	0	0	0	0	0	0	0	0	0	0
1228 White Creek LLC	0	0	0	0	0	0	0	0	0	0
1229 Total Other Entities	0	0	0	0	0	0	0	0	0	0
<u>Large Thermal Reserves</u>										
<i>-Federal Entities-</i>										
1239 BPA - Power Business	0	0	0	0	0	0	0	0	0	0
1240 Total Federal Entities	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>										
1250 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0
1251 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>										
1252 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>										
1316 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0
1317 Idaho Power Company	0	0	0	0	0	0	0	0	0	0
1318 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0
1319 Pacific Power	0	0	0	0	0	0	0	0	0	0
1320 Portland General Electric	0	0	0	0	0	0	0	0	0	0
1321 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0
1322 San Diego Gas & Electric	0	0	0	0	0	0	0	0	0	0
1323 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>										
1333 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0
1334 Total Other Entities	0	0	0	0	0	0	0	0	0	0

Contract Reserves

Continued

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-Federal Entities-</i>										
1335 Total Federal Entities	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>										
1345 Seattle City Light	0	0	0	0	0	0	0	0	0	0
1346 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>										
1347 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>										
1357 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0
1358 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>										
1359 Total Other Entities	0	0	0	0	0	0	0	0	0	0
<i>-Total Capacity Reserves-</i>										
1360 Total Hydro Reserves	0	0	0	0	0	0	0	0	0	0
1361 Total Small Thermal & Misc Reserves	0	0	0	0	0	0	0	0	0	0
1362 Total Large Thermal Reserves	0	0	0	0	0	0	0	0	0	0
1363 Total Contract Reserves	0	0	0	0	0	0	0	0	0	0
1364 Total Capacity Reserves	0	0	0	0	0	0	0	0	0	0

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Table A-18
Wells & Chelan Allocation
Annual OY 2010 – 2019
Capacity in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-18: Wells and Chelan Allocation
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
-Wells-										
1 Wells	389	389	389	389	389	389	389	389	389	389
2 Wells Before Enc	389	389	389	389	389	389	389	389	389	389
-Wells-										
3 AVWP Share	12	12	12	12	12	12	12	12	12	12
4 COLV Share	16	16	16	16	16	16	16	16	16	16
5 DOPD Share	99	99	99	99	99	99	99	99	99	99
6 OKPD Share	26	26	26	26	26	26	26	26	26	26
7 PGE Share	67	67	67	67	67	67	67	67	67	67
8 PPL Share	23	23	23	23	23	23	23	23	23	23
9 PSE Share	103	103	103	103	103	103	103	103	103	103
10 Wells After Enc	345	345	345	345	345	345	345	345	345	345
-Chelan-										
11 Chelan	39	39	39	39	39	39	39	39	39	39
12 Chelan Before Enc	39	39	39	39	39	39	39	39	39	39
-Chelan-										
13 CHPD Share	42	42	42	42	42	42	42	42	42	42
14 Chelan After Enc	42	42	42	42	42	42	42	42	42	42

Table A-19
Rocky Reach & Rock Island Allocation
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-19: Rocky Reach and Rock Island Allocation
PNW Loads and Resource Study
2010 - 2019 Operating Years
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
-Rocky Reach-										
1 Rocky Reach	519	519	519	519	519	519	519	519	519	519
2 Rocky Reach Before Enc	519	519	519	519	519	519	519	519	519	519
-Rocky Reach-										
3 APGI Share	123	123	141	140	139	139	140	139	139	139
4 AVWP Share	16	16	3.7	0	0	0	0	0	0	0
5 CHPD Share	81	81	191	233	233	233	233	233	233	233
6 DOPD Share	14	14	26	30	30	30	30	30	30	30
7 PGE Share	65	65	16	0	0	0	0	0	0	0
8 PPL Share	28	28	6.8	0	0	0	0	0	0	0
9 PSE Share	209	209	152	134	134	134	134	134	134	134
10 Rocky Reach After Enc	537	537	537	537	536	536	537	536	536	536
-Rock Island PH#1-										
11 Rock Island PH#1	133	133	133	133	133	132	133	132	133	132
12 Rock Island PH#1 Before Enc	133	133	133	133	133	132	133	132	133	132
-Rock Island PH#1-										
13 APGI Share	0	0	4.2	44	44	44	44	44	44	44
14 CHPD Share	85	85	85	84	84	83	84	83	84	83
15 PSE Share	85	85	81	43	43	42	43	42	43	42
16 Rock Island PH#1 After Enc	171	171	171	171	170	170	170	170	170	170
-Rock Island PH#2-										
17 Rock Island PH#2	102	102	103	102	103	103	103	103	103	103
18 Rock Island PH#2 Before Enc	102	102	103	102	103	103	103	103	103	103
-Rock Island PH#2-										
19 APGI Share	0	0	2.2	34	34	34	34	34	34	34
20 CHPD Share	66	66	66	64	64	64	64	64	64	64
21 PSE Share	66	66	64	33	33	33	33	33	33	33
22 Rock Island PH#2 After Enc	131	131	131	131	131	132	131	132	131	132

Table A-20
Wanapum & Priest Rapids Allocation
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-20: Wanapum and Priest Rapids Allocation
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
-Wanapum-										
1 Wanapum	429	429	429	429	429	429	429	429	429	429
2 Wanapum Before Enc	429	429	429	429	429	429	429	429	429	429
-Wanapum-										
3 AVWP Share	18	14	14	14	14	14	14	14	14	14
4 COPD Share	7.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
5 EWEB Share	2.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
6 FGRV Share	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
7 GCPD Share	190	221	221	221	221	221	221	221	221	221
8 KITT Share	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9 MCMN Share	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
10 MTRF Share	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
11 PGE Share	41	31	31	31	31	31	31	31	31	31
12 PNWMkt Share	56	73	73	73	73	73	73	73	73	73
13 PPL Share	21	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
14 PSE Share	12	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
15 SCL Share	1.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
16 TPU Share	1.5	1	1	1	1	1	1	1	1	1
17 Wanapum After Enc	358	358	358	358	358	358	358	358	358	358
-Priest Rapids-										
18 Priest Rapids	376	376	376	376	376	376	376	376	376	376
19 Priest Rapids Before Enc	376	376	376	376	376	376	376	376	376	376
-Priest Rapids-										
20 AVWP Share	15	14	14	14	14	14	14	14	14	14
21 COPD Share	6.2	6.4	6.5	6.4	6.4	6.4	6.5	6.4	6.4	6.4
22 EWEB Share	0.9	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
23 FGRV Share	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
24 GCPD Share	211	222	222	222	222	222	222	222	222	222
25 KITT Share	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
26 MCMN Share	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
27 MTRF Share	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
28 PGE Share	32	31	31	31	31	31	31	31	31	31
29 PNWMkt Share	76	73	73	73	73	73	73	73	73	73
30 PPL Share	7.0	4.0	4	4.0	4.0	4.0	4	4.0	4.0	4.0
31 PSE Share	4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
32 SCL Share	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
33 TPU Share	2.1	1	1	1	1	1	1	1	1	1
34 Priest Rapids After Enc	360	360	360	360	360	360	360	360	360	360

Table A-21
Swift #1 and Swift #2 Allocation
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-21: Swift #1 and Swift #2 Allocation
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-Swift 1-</i> 1 Swift 1	61	61	61	61	61	61	61	61	61	61
2 Swift 1 Before Enc	61	61	61	61	61	61	61	61	61	61
<i>-Swift 1-</i> 3 COPD Share	16	16	16	16	16	16	16	16	16	16
4 PPL Share	45	45	45	45	45	45	45	45	45	45
5 Swift 1 After Enc	61	61	61	61	61	61	61	61	61	61
<i>-Swift 2-</i> 6 Swift 2	22	22	22	22	22	22	22	22	22	22
7 Swift 2 Before Enc	22	22	22	22	22	22	22	22	22	22
<i>-Swift 2-</i> 8 COPD Share	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
9 PPL Share	16	16	16	16	16	16	16	16	16	16
10 Swift 2 After Enc	22	22	22	22	22	22	22	22	22	22

Table A-22
BPA Power Sale Contracts
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-22: BPA Power Sale Contracts
PNW Loads and Resource Study
2010 - 2019 Operating Years
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
-Federal Entities-										
1 BPA To Federal Entities	120	123	125	127	136	144	147	176	198	200
2 Total Federal Entities	120	123	125	127	136	144	147	176	198	200
-U.S. Bureau of Reclamation-										
3 BPA To U.S. Bureau of Reclamation	161	161	161	161	161	161	161	161	161	161
4 Total U.S. Bureau of Reclamation	161	161	161	161	161	161	161	161	161	161
-Direct Service Industry-										
5 BPA To Direct Service Industry	17	17	2.8	0	0	0	0	0	0	0
6 Total Direct Service Industry	17	17	2.8	0	0	0	0	0	0	0
-Generating Public Entities-										
7 BPA To Generating Public Entities	2249	2251	1800	1724	1749	1772	1817	1860	1905	1950
8 Total Generating Public Entities	2249	2251	1800	1724	1749	1772	1817	1860	1905	1950
-Generating Public Entities (Slice)-										
9 BPA To Generating Public Entities (Slice)	1011	984	1467	1522	1559	1528	1570	1537	1582	1552
10 Total Generating Public Entities (Slice)	1011	984	1467	1522	1559	1528	1570	1537	1582	1552
-Non-Generating Public Entities-										
11 BPA To Non-Generating Public Entities	3135	3191	3477	3596	3664	3727	3798	3864	3935	4005
12 Total Non-Generating Public Entities	3135	3191	3477	3596	3664	3727	3798	3864	3935	4005
-Non-Generating Public Entities (Slice)-										
13 BPA To Non-Generating Public Entities (Slice)	607	591	415	373	382	374	385	377	388	381
14 Total Non-Generating Public Entities (Slice)	607	591	415	373	382	374	385	377	388	381
-Investor-Owned Entities-										
15 BPA To Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0
16 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0
-Other Entities-										
17 BPA To Other PNW Entities	0	0	0	0	0	0	0	0	0	0
18 Total Other Entities	0	0	0	0	0	0	0	0	0	0
-Power Sales Contracts-										
19 Federal Entities	120	123	125	127	136	144	147	176	198	200
20 U.S. Bureau of Reclamation	161	161	161	161	161	161	161	161	161	161
21 Direct Service Industry	17	17	2.8	0	0	0	0	0	0	0
22 Generating Public Entities	3260	3234	3267	3246	3307	3300	3387	3398	3487	3503
23 Non-Generating Public Entities	3742	3782	3892	3969	4046	4102	4183	4240	4322	4386
24 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0
25 Other Entities	0	0	0	0	0	0	0	0	0	0
26 Total Power Sales Contracts	7300	7317	7448	7503	7649	7706	7878	7975	8167	8248

Table A-23
Non-Utility Generating Resources by Owner
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-23: Regional NUG Resources By Owner
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-Federal Entities-</i>										
1 Federal Entities	26	26	12	2.8	2.8	2.8	44	53	53	53
2 Total Federal Entities	26	26	12	2.8	2.8	2.8	44	53	53	53
<i>-Generating Public Entities-</i>										
3 Generating Public Entities	116	116	115	116	116	116	115	116	116	116
4 Total Generating Public Entities	116	116	115	116	116	116	115	116	116	116
<i>-Non-Generating Public Entities-</i>										
5 Non-Generating Public Entities	2.4	2.4	12	18	18	18	18	18	18	18
6 Total Non-Generating Public Entities	2.4	2.4	12	18	18	18	18	18	18	18
<i>-Investor-Owned Entities-</i>										
7 Investor-Owned Entities	476	475	465	460	458	451	451	451	451	450
8 Total Investor-owned Entities	476	475	465	460	458	451	451	451	451	450
<i>-Other Entities-</i>										
9 Other Entities	5.5	5.5	5.4	5.5	6.3	15	15	15	15	15
10 Total Other Entities	5.5	5.5	5.4	5.5	6.3	15	15	15	15	15
<i>-Total Non-Utility Generating Resources-</i>										
11 Federal Entities	26	26	12	2.8	2.8	2.8	44	53	53	53
12 Public Entities	118	118	127	134	134	134	134	134	134	134
13 Investor-Owned Entities	476	475	465	460	458	451	451	451	451	450
14 Other Entities	5.5	5.5	5.4	5.5	6.3	15	15	15	15	15
15 Total Non-Utility Generation	626	624	610	602	602	603	645	653	653	652

Table A-24
Non-Utility Generating Resources by Project
and Project Type
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-24: Regional NUG Resources By Project And Project Type
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-NUG: Hydro-</i>										
1 Albany	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2 Barber Dam	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
3 Barney Creek	0	0	0	0	0	0	0	0	0	0
4 Beaverton	0	0	0	0	0	0	0	0	0	0
5 Bell Mountain	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6 Big Sheep Creek	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
7 Bingham Engineering	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8 Birch Creek (Clark County)	0	0	0	0	0	0	0	0	0	0
9 Birch Creek (Gooding County)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
10 Black Canyon #3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11 Black Creek	3	2.9	2.8	2.8	3.0	3.1	2.9	3.0	3.0	3.0
12 Blind Canyon Hydro	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13 Boulder Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 Box Canyon	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
15 Briggs Creek	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16 Broadwater Dam	1.8	1.9	2.0	2	2	2	2	2	2	2
17 Buffalo Hydro	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18 Burr & Bouchard	0	0	0	0	0	0	0	0	0	0
19 Bypass	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	4.3
20 Canyon Springs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 Carlton	0	0	0	0	0	0	0	0	0	0
22 Cascade Creek	0	0	0	0	0	0	0	0	0	0
23 Cedar Draw	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
24 Central OR Irrigation District	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
25 Clear Springs Trout	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
26 Cornelius	0	0	0	0	0	0	0	0	0	0
27 Cowiche	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
28 Crystal Springs	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
29 Curry Cattle Co.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30 Curtiss Livestock	0	0	0	0	0	0	0	0	0	0
31 Dairy Creek	0	0	0	0	0	0	0	0	0	0
32 Deep Creek	0	0	0	0	0	0	0	0	0	0
33 Derr Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
34 Dietrich Drop	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
35 Don Steffen	0	0	0	0	0	0	0	0	0	0
36 Donald Jenni	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
37 Dworshak/Clearwater Small Hydropower	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
38 Eagle Creek	0	0	0	0	0	0	0	0	0	0
39 Elk Creek	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
40 Eltopia Br Canal 4.6	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
41 Elwha Hydro	8.6	8.6	3.0	0	0	0	0	0	0	0
42 Estacada	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
43 Fall Creek (OR)	1.9	1.9	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9
44 Falls Creek (WA)	0	0	0	0	0	0	0	0	0	0
45 Falls River	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
46 Farmers Irrig.	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
47 Faulkner Ranch	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
48 Fisheries Development Co	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
49 Galesville Dam	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
50 Geobon 2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
51 Georgetown Power	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
52 Glines Canyon Hydro	15	15	6.5	0	0	0	0	0	0	0
53 Hailey Cspg	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
54 Hazelton A	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
55 Hazelton B	3	3	3	3	3	3	3	3	3	3
56 Horseshoe Bend Hydro	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
57 Hutchinson Creek	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
58 Ingram Warm Springs	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
59 Jim Ford Creek	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
60 Jim Knight	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
61 John Day Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
62 Kasel & Witherspoon	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
63 Kevin Duncan	0	0	0	0	0	0	0	0	0	0
64 Koma Kulshan	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
65 Koyle	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
66 L. Fery	0	0	0	0	0	0	0	0	0	0
67 Lacombe Irrig.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
68 Lake Oswego	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
69 Lateral #10	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
70 Lee Tavenner	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
71 Lemoyne	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
72 Lilliwaup Falls Generating Co.	0	0	0	0	0	0	0	0	0	0
73 Little Mac	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
74 Little Wood River Res.	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75 Littlewood/Arkoosh	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
76 Low Line Canal Drop	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
77 Low Line Midway	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78 Lower Low Line #2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
79 Lucky Peak	24	24	24	24	24	24	24	24	24	24
80 Magic Reservoir	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
81 Main Canal Headworks	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
82 Malad River	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83 Marco Ranches	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
84 Marsh Valley	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
85 Meyers Falls	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
86 Middle Fork Irrig.	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
87 Mile 28	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
88 Mill Creek (OR) - City of Cove	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
89 Minikahda	0	0	0	0	0	0	0	0	0	0
90 Mink Creek	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
91 Mitchell Butte	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
92 Mora Canal Drop	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
93 Mountain Energy	0	0	0	0	0	0	0	0	0	0
94 Mt. Tabor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
95 Mud Creek/S&S	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
96 Mud Creek/White	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
97 Nichols Gap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
98 Nicholson Sunnybar	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
99 North Fork Sprague	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
100 O.J. Power	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
101 Odell Creek	0	0	0	0	0	0	0	0	0	0
102 Opal Springs	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
103 Orchard Avenue	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
104 Owyhee Dam	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
105 PEC Headworks	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
106 Phillips Ranch	0	0	0	0	0	0	0	0	0	0
107 Phillipsburg	0	0	0	0	0	0	0	0	0	0
108 Pickering Micro Hydro	0	0	0	0	0	0	0	0	0	0
109 Pigeon Cove	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
110 Pine Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
111 Portland	0	0	0	0	0	0	0	0	0	0
112 Portland Hydro Project	12	12	12	12	12	12	12	12	12	12
113 Portneuf River	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2
114 Potholes E Canal 66.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
115 Preston City	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
116 Pristine Springs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
117 Pristine Springs #3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
118 Quincy Chute	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
119 Reynolds Irrigation	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
120 Rim View	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
121 Rock Creek #1	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
122 Rock Creek #2	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
123 Rocky Brook	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
124 Russel D. Smith	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
125 Sagebrush	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
126 Sahko	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
127 Salem	0	0	0	0	0	0	0	0	0	0
128 Schaffner	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
129 Sheep Creek	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
130 Shingle Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
131 Shoshone	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
132 Shoshone II	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
133 Snake River Pottery	0	0	0	0	0	0	0	0	0	0
134 Snedigar Ranch	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
135 Solar Research	0	0	0	0	0	0	0	0	0	0
136 South Dry Creek	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
137 Spokane Upriver	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
138 Stauffer Dry Creek	0.9	0.9	0.8	0.9	0.9	0.9	0.8	0.9	0.9	0.9
139 Strawberry Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
140 Summer Falls	37	37	37	37	37	37	37	37	37	37
141 Sunshine Power #2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
142 Sygitowicz Creek Small Hydro	0.4	0.4	0.4	0.4	0.3	0	0	0	0	0
143 Thomas Burnside	0	0	0	0	0	0	0	0	0	0
144 Tiber Dam Liberty Montana	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
145 Tieton (Yakima)	4.3	4.3	4.2	4.3	4.3	4.3	4.2	4.3	4.3	4.3
146 Trout Co.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
147 Tunnel #1	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
148 Twin Falls	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	7.7
149 Walla Walla	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
150 Water Street / Santiam	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
151 Weeks Falls	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
152 White Water Ranch	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
153 Wilson Lake Hydro	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
154 Wisconsin Creek	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
155 Woods Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
156 Total NUG: Hydro	258	258	243	234	234	234	234	234	234	233
-NUG: Small Thermal & Misc.-										
157 Covanta Marion Solid Waste	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
158 Methane Energy Agricultural D.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
159 Montana One	8.3	9.3	9.4	9.7	9.6	9.6	9.6	9.6	9.6	9.6
160 Pocatello Waste	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
161 Spokane MSW	16	16	16	16	16	16	16	16	16	16
162 Treasure Valley	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
163 West Boise Waste	0	0	0	0	0	0	0	0	0	0
164 Total NUG: Small Thermal & Misc.	37	39	39	39	39	39	39	39	39	39
-NUG: Co-Generation-										
165 Billings Generation	14	16	16	17	17	17	17	17	17	17
166 Biomass One	20	15	15	15	15	15	15	15	15	15
167 Boise Cascade Medford	0	0	0	0	0	0	0	0	0	0
168 Champion	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
169 Cogen Co	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
170 DR Johnson - Co-Gen II	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
171 Everett Cogen Project (Kimberly Clark)	34	34	34	34	34	34	34	34	34	34
172 Evergreen Biopower Cogen (Freres)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
173 Glenns Ferry Cogen Facility (Magic West)	9.5	9.5	9.5	9.5	9.5	10	10	10	10	10
174 March Point #1	76	76	76	76	76	76	76	76	76	76
175 March Point #2	45	45	45	45	45	45	45	45	45	45
176 Metro Westpoint	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
177 Potlatch Contract Renewal	48	48	48	48	48	48	48	48	48	48
178 Rough & Ready Lumber	1	1	1	1	1	1	1	1	1	1
179 Rupert Cogen Facility (Magic Valley)	9.5	9.5	9.5	9.5	9.5	10	10	10	10	10
180 Simplot Pocatello	9	9	9	9	9	9	9	9	9	9
181 Stimson Lumber (formerly Haley West)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
182 Sumas Compression Station	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
183 Tamarack	4	4	4	4	4	4	4	4	4	4
184 TASCO Nampa ID	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
185 TASCO Twin Falls ID	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2010 - 2019 Operating Years
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
186 Vaagen Bros.	4	4	4	4	4	4	4	4	4	4
187 Warm Springs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
188 Total NUG: Co-Generation	307	303	303	304	304	306	306	306	306	306
-NUG: Renewables-										
189 Ashland Solar Project	0	0	0	0	0	0	0	0	0	0
190 Bettencourt Dairy (Cargill)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
191 Big Sky Dairy	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
192 Chinook Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
193 DeRuyter & Son's Dairy	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
194 Dry Creek Landfill (NUG Renewable)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
195 Emmett Biomass Project	0	0	0	0	0	0	0	0	0	0
196 Finley Buttes BioEnergy	2.2	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
197 Healow #2	0	0	0	0	0	0	0	0	0	0
198 Hidden Hollow Landfill	3	3	3	3	3	3	3	3	3	3
199 Josef Staufer	0	0	0	0	0	0	0	0	0	0
200 Lewandowski Farms	0	0	0	0	0	0	0	0	0	0
201 Livingston	0	0	0	0	0	0	0	0	0	0
202 Pine Products Corp	0	0	0	0	0	0	0	0	0	0
203 Portland Waste Water	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
204 Puyallup Energy Recovery (PERC)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
205 Qualco Dairy Digester	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
206 Raft River Geothermal Phase 1	10	10	10	10	10	10	10	10	10	10
207 VanderHaak Dairy	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
208 White Bluffs Solar	0	0	0	0	0	0	0	0	0	0
209 Wild Horse Solar	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
210 Windmill	0	0	0	0	0	0	0	0	0	0
211 Fourmile Hill Geothermal	0	0	0	0	0	0	42	50	50	50
212 Total NUG: Renewables	24	25	25	25	25	25	66	75	75	75
-Total Non-Utility Generating Resources-										
213 Federal Entities	26	26	12	2.8	2.8	2.8	44	53	53	53
214 Public Entities	118	118	127	134	134	134	134	134	134	134
215 Investor-Owned Entities	476	475	465	460	458	451	451	451	451	450
216 Other Entities	5.5	5.5	5.4	5.5	6.3	15	15	15	15	15
217 Total Non-Utility Generation	626	624	610	602	602	603	645	653	653	652

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Table A-26
Dedicated Resources
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-26: Dedicated Resources
 PNW Loads and Resource Study
 2010 - 2019 Operating Years
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-Generating Public Entities-</i>										
1 Generating Public Entities	2165	2157	2349	2414	2417	2420	2417	2402	2400	2358
2 Total Generating Public Entities	2165	2157	2349	2414	2417	2420	2417	2402	2400	2358
<i>-Non-Generating Public Entities-</i>										
3 Small & Non Generating Public Entities	98	101	101	102	102	101	102	102	102	95
4 Total Non-Generating Public Entities	98	101	101	102	102	101	102	102	102	95
<i>-Investor-Owned Entities-</i>										
5 Investor-Owned Entities	7720	7739	7436	7326	7301	7336	7278	7326	7303	7050
6 Total Investor-owned Entities	7720	7739	7436	7326	7301	7336	7278	7326	7303	7050
<i>-Total Dedicated Resources-</i>										
7 Generating Public Entities	2165	2157	2349	2414	2417	2420	2417	2402	2400	2358
8 Small & Non Generating Entities	98	101	101	102	102	101	102	102	102	95
9 Investor-Owned Entities	7720	7739	7436	7326	7301	7336	7278	7326	7303	7050
10 Regional Total Dedicated Resources	9982	9997	9887	9842	9820	9857	9797	9829	9805	9502

Table A-27
Other Dedicated Resources
Annual OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-27: Other Dedicated Resources
PNW Loads and Resource Study
2010 - 2019 Operating Years
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	2010 Avg.	2011 Avg.	2012 Avg.	2013 Avg.	2014 Avg.	2015 Avg.	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.
<i>-Generating Public Entities-</i>										
1 Generating Public Entities	3852	3902	1144	641	641	641	640	638	658	657
2 Total Generating Public Entities	3852	3902	1144	641	641	641	640	638	658	657
<i>-Non-Generating Public Entities-</i>										
3 Small & Non Generating Public Entities	3825	3869	712	118	119	121	123	123	123	123
4 Total Non-Generating Public Entities	3825	3869	712	118	119	121	123	123	123	123
<i>-Investor-Owned Entities-</i>										
5 Investor-Owned Entities	4787	4949	4804	4773	4710	4674	4715	4780	4675	4735
6 Total Investor-owned Entities	4787	4949	4804	4773	4710	4674	4715	4780	4675	4735
<i>-Total Dedicated Resources-</i>										
7 Generating Public Entities	3852	3902	1144	641	641	641	640	638	658	657
8 Non Generating Entities	3825	3869	712	118	119	121	123	123	123	123
9 Investor-Owned Entities	4787	4949	4804	4773	4710	4674	4715	4780	4675	4735
10 Regional Total Dedicated Resources	12464	12720	6660	5533	5470	5437	5479	5541	5456	5515

Section 4
Monthly Federal Tables
Loads & Resources
Average Energy in Megawatts

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Loads & Resources Federal Tables
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Loads and Resources - Federal System
PNW Loads and Resource Study
2009 - 2010 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Non-Utility Obligations															
<i>Fed. Agencies 2002 PSC</i>	116	115	106	106	126	139	145	137	124	114	114	108	105	117	120
<i>USBR 2002 PSC</i>	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>DSI 2002 PSC</i>	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
<i>Fed. Agencies 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>USBR 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>DSI 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Non-Utility Obligations</i>	389	388	341	218	157	187	232	233	192	355	355	414	408	444	298
Transfers Out															
<i>NGP 2002 PSC</i>	3065	3042	2787	2776	3207	3586	3647	3476	3011	2922	2922	2907	3033	3229	3135
<i>GPU 2002 PSC</i>	1968	1960	2089	2015	2505	2756	2719	2695	2481	2135	2135	1935	1831	1896	2249
<i>NGP 2002 Slice PSC</i>	648	546	516	576	681	655	659	588	555	431	466	744	635	622	607
<i>GPU 2002 Slice PSC</i>	1079	909	859	959	1134	1091	1098	979	924	718	776	1238	1057	1036	1011
<i>IOU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2012 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2012 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>IOU 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Exports</i>	744	741	734	694	693	701	693	691	694	725	728	756	759	749	719
<i>Regional Transfers (Out)</i>	583	562	364	328	639	670	693	657	523	488	459	451	266	266	491
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Transfers Out</i>	8088	7761	7350	7348	8860	9458	9509	9085	8189	7420	7486	8031	7582	7797	8212
<i>Total Firm Obligations</i>	8477	8149	7691	7565	9018	9645	9741	9318	8380	7774	7840	8445	7989	8242	8510
Hydro Resources															
<i>Regulated Hydro</i>	7046	5818	5482	6079	7302	7093	7197	6345	5812	4367	4756	7896	6522	6684	6455
<i>Independent Hydro</i>	414	391	338	336	297	210	188	186	275	402	438	730	783	496	389
<i>Operational Peaking Adj.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Non-Fed CER (Canada)</i>	137	137	137	137	137	137	137	137	137	141	141	141	141	141	138
<i>Total Hydro Resources</i>	7597	6346	5957	6552	7736	7440	7522	6669	6224	4910	5335	8767	7446	7322	6983
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Renewables</i>	54	68	52	57	61	59	62	60	81	74	70	74	80	66	65
<i>Cogeneration</i>	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
<i>Imports</i>	175	162	162	217	297	367	367	344	332	330	270	136	134	165	249
<i>Regional Transfers (In)</i>	766	781	668	397	619	552	526	524	502	499	500	220	345	214	486
<i>Large Thermal</i>	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
<i>Non-Utility Generation</i>	27	25	9.0	13	26	30	29	26	25	45	45	41	27	19	26
<i>Augmentation Purchases</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Augmentation Resources</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	2072	2086	1942	1737	2057	2063	2042	2011	1995	2003	1941	1523	1628	1514	1879
<i>Total Resources</i>	9669	8432	7898	8288	9793	9503	9564	8679	8219	6913	7276	10290	9074	8836	8862
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Hydro Maintenance</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Transmission Losses</i>	-273	-238	-223	-234	-276	-268	-270	-245	-232	-195	-205	-290	-256	-249	-250

Continued

Loads and Resources - Federal System
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>Total Reserves, Maintenance & Losses</i>	-273	-238	-223	-234	-276	-268	-270	-245	-232	-195	-205	-290	-256	-249	-250
<i>Total Net Resources</i>	9396	8194	7676	8054	9516	9235	9294	8435	7987	6718	7071	10000	8818	8587	8612
<i>Total Firm Surplus/Deficit</i>	919	45	-15	489	499	-410	-447	-883	-393	-1056	-770	1554	829	345	102

Loads and Resources - Federal System
PNW Loads and Resource Study
2010 - 2011 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Non-Utility Obligations															
<i>Fed. Agencies 2002 PSC</i>	118	120	109	110	130	143	148	140	126	115	115	110	107	119	123
<i>USBR 2002 PSC</i>	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>DSI 2002 PSC</i>	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
<i>Fed. Agencies 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>USBR 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>DSI 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Non-Utility Obligations</i>	391	393	344	221	162	192	235	236	194	357	357	416	409	446	301
Transfers Out															
<i>NGP 2002 PSC</i>	3106	3138	2849	2834	3265	3636	3703	3524	3064	2974	2974	2956	3082	3293	3191
<i>GPU 2002 PSC</i>	1964	1976	2093	2014	2507	2756	2719	2696	2481	2136	2136	1935	1831	1898	2251
<i>NGP 2002 Slice PSC</i>	654	551	521	580	686	660	663	592	559	395	385	663	554	615	591
<i>GPU 2002 Slice PSC</i>	1088	918	867	967	1142	1098	1105	986	931	658	641	1103	922	1024	984
<i>IOU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2012 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2012 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>IOU 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Exports</i>	697	695	686	645	648	653	645	644	648	679	682	709	718	709	674
<i>Regional Transfers (Out)</i>	451	437	253	328	637	667	691	657	523	488	459	451	266	266	471
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Transfers Out</i>	7960	7715	7269	7368	8884	9470	9526	9100	8206	7330	7275	7816	7373	7806	8160
<i>Total Firm Obligations</i>	8350	8108	7613	7589	9045	9662	9761	9336	8400	7687	7632	8232	7783	8252	8461
Hydro Resources															
<i>Regulated Hydro</i>	7065	5833	5495	6085	7311	7100	7205	6352	5817	4370	4760	7903	6528	6692	6463
<i>Independent Hydro</i>	414	391	338	336	297	210	188	186	275	402	438	730	783	496	389
<i>Operational Peaking Adj.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Non-Fed CER (Canada)</i>	141	141	141	141	141	141	141	141	141	139	139	139	139	139	140
<i>Total Hydro Resources</i>	7620	6365	5973	6562	7748	7451	7534	6679	6234	4911	5338	8772	7450	7327	6993
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Renewables</i>	54	68	52	57	61	59	62	60	81	74	70	74	80	66	65
<i>Cogeneration</i>	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
<i>Imports</i>	171	155	155	206	285	356	356	334	321	319	265	130	134	165	241
<i>Regional Transfers (In)</i>	223	236	358	350	570	500	517	515	500	498	499	217	341	211	399
<i>Large Thermal</i>	1030	1030	1030	1030	1030	1030	1030	1030	1030	550	0	0	0	897	785
<i>Non-Utility Generation</i>	27	25	9.0	13	26	30	29	26	25	45	45	41	27	19	26
<i>Augmentation Purchases</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Augmentation Resources</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	1526	1534	1625	1678	1997	2000	2022	1991	1983	1511	904	483	594	1378	1539
<i>Total Resources</i>	9146	7898	7598	8240	9745	9452	9556	8670	8216	6422	6241	9255	8044	8705	8532
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Hydro Maintenance</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Transmission Losses</i>	-258	-223	-214	-232	-275	-267	-269	-245	-232	-181	-176	-261	-227	-245	-241

Continued

Loads and Resources - Federal System
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>Total Reserves, Maintenance & Losses</i>	-258	-223	-214	-232	-275	-267	-269	-245	-232	-181	-176	-261	-227	-245	-241
<i>Total Net Resources</i>	8888	7676	7384	8008	9470	9185	9286	8426	7985	6241	6065	8994	7817	8460	8291
<i>Total Firm Surplus/Deficit</i>	538	-432	-230	419	425	-477	-475	-910	-415	-1446	-1567	763	34	208	-170

Loads and Resources - Federal System
PNW Loads and Resource Study
2011 - 2012 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Non-Utility Obligations															
<i>Fed. Agencies 2002 PSC</i>	121	121	110	0	0	0	0	0	0	0	0	0	0	0	19
<i>USBR 2002 PSC</i>	256	256	219	0	0	0	0	0	0	0	0	0	0	0	40
<i>DSI 2002 PSC</i>	17	17	17	0	0	0	0	0	0	0	0	0	0	0	2.8
<i>Fed. Agencies 2012 PSC</i>	0	0	0	111	133	146	150	143	129	117	118	111	108	121	106
<i>USBR 2012 PSC</i>	0	0	0	94	14	31	70	85	50	224	224	289	286	310	121
<i>DSI 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Non-Utility Obligations</i>	394	394	346	206	147	178	220	227	179	341	342	401	394	431	289
Transfers Out															
<i>NGP 2002 PSC</i>	3170	3172	2895	0	0	0	0	0	0	0	0	0	0	0	506
<i>GPU 2002 PSC</i>	1965	1966	2093	0	0	0	0	0	0	0	0	0	0	0	338
<i>NGP 2002 Slice PSC</i>	655	552	522	0	0	0	0	0	0	0	0	0	0	0	94
<i>GPU 2002 Slice PSC</i>	1091	920	869	0	0	0	0	0	0	0	0	0	0	0	156
<i>IOU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2012 PSC</i>	0	0	0	3149	3616	4013	4054	3866	3391	3256	3280	3264	3403	3641	2972
<i>GPU 2012 PSC</i>	0	0	0	1601	1913	2122	2123	1934	1819	1648	1649	1498	1444	1447	1462
<i>NGP 2012 Slice PSC</i>	0	0	0	367	424	406	409	363	347	269	289	468	397	391	321
<i>GPU 2012 Slice PSC</i>	0	0	0	1497	1730	1658	1667	1480	1417	1096	1181	1909	1621	1595	1310
<i>IOU 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Exports</i>	689	686	676	600	599	602	595	593	598	632	635	666	673	661	632
<i>Regional Transfers (Out)</i>	282	268	59	145	408	480	479	458	345	316	285	54	92	108	267
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Transfers Out</i>	7851	7565	7115	7358	8690	9281	9327	8693	7918	7217	7320	7858	7630	7843	8058
<i>Total Firm Obligations</i>	8245	7959	7461	7564	8837	9459	9547	8920	8097	7558	7662	8259	8024	8274	8347
Hydro Resources															
<i>Regulated Hydro</i>	7074	5840	5500	6116	7349	7137	7243	6385	5847	4391	4784	7942	6559	6724	6491
<i>Independent Hydro</i>	414	391	338	329	287	198	179	176	262	385	422	708	761	476	377
<i>Operational Peaking Adj.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Non-Fed CER (Canada)</i>	139	139	139	139	139	139	139	139	139	138	138	138	138	138	139
<i>Total Hydro Resources</i>	7628	6370	5977	6585	7775	7474	7561	6700	6248	4913	5344	8787	7457	7337	7007
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Renewables</i>	54	68	52	57	61	59	62	60	81	74	70	73	80	66	65
<i>Cogeneration</i>	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
<i>Imports</i>	171	156	154	206	284	355	356	334	321	322	265	130	134	165	241
<i>Regional Transfers (In)</i>	221	233	162	160	334	304	297	308	315	317	320	42	158	44	222
<i>Large Thermal</i>	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
<i>Non-Utility Generation</i>	27	25	9.0	13	26	30	18	8.7	2.6	2.6	2.6	2.6	2.6	2.6	12
<i>Augmentation Purchases</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Augmentation Resources</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	1522	1532	1428	1488	1759	1804	1791	1767	1776	1771	1713	1300	1417	1329	1593
<i>Total Resources</i>	9150	7901	7404	8073	9534	9277	9352	8467	8024	6685	7057	10087	8874	8666	8600
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Hydro Maintenance</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Transmission Losses</i>	-258	-223	-209	-228	-269	-262	-264	-239	-226	-189	-199	-284	-250	-244	-243

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>Total Reserves, Maintenance & Losses</i>	-258	-223	-209	-228	-269	-262	-264	-239	-226	-189	-199	-284	-250	-244	-243
<i>Total Net Resources</i>	8892	7678	7196	7845	9265	9016	9088	8228	7798	6496	6858	9803	8624	8421	8358
<i>Total Firm Surplus/Deficit</i>	647	-280	-265	281	428	-443	-459	-692	-299	-1062	-804	1544	600	147	11

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Non-Utility Obligations															
<i>Fed. Agencies 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>USBR 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>DSI 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Fed. Agencies 2012 PSC</i>	123	123	112	113	135	149	152	144	130	119	119	113	109	123	127
<i>USBR 2012 PSC</i>	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>DSI 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Non-Utility Obligations</i>	378	379	331	207	149	180	222	223	180	343	343	402	395	433	287
Transfers Out															
<i>NGP 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>IOU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2012 PSC</i>	3516	3519	3244	3213	3684	4084	4142	3947	3462	3336	3336	3352	3472	3715	3596
<i>GPU 2012 PSC</i>	1456	1456	1447	1621	1932	2140	2142	2015	1838	1668	1668	1518	1464	1468	1724
<i>NGP 2012 Slice PSC</i>	412	347	329	367	424	406	409	364	348	269	290	433	345	387	373
<i>GPU 2012 Slice PSC</i>	1680	1415	1344	1499	1730	1657	1668	1484	1421	1099	1184	1766	1408	1578	1522
<i>IOU 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Exports</i>	639	636	630	589	587	590	583	581	586	621	623	654	660	650	614
<i>Regional Transfers (Out)</i>	79	65	59	145	408	480	479	458	345	315	286	54	92	108	249
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Transfers Out</i>	7781	7438	7054	7434	8765	9357	9423	8849	8001	7308	7388	7778	7441	7905	8078
<i>Total Firm Obligations</i>	8159	7817	7385	7642	8914	9537	9645	9072	8181	7651	7730	8179	7837	8337	8366
Hydro Resources															
<i>Regulated Hydro</i>	7112	5869	5526	6125	7361	7147	7255	6395	5855	4396	4791	7952	6567	6734	6505
<i>Independent Hydro</i>	399	376	328	329	287	198	179	176	262	385	422	708	761	476	375
<i>Operational Peaking Adj.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Non-Fed CER (Canada)</i>	138	138	138	138	138	138	138	138	138	136	136	136	136	136	137
<i>Total Hydro Resources</i>	7649	6383	5991	6592	7785	7483	7571	6708	6255	4917	5349	8796	7465	7346	7017
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Renewables</i>	54	68	52	57	61	59	62	60	81	74	70	73	81	66	65
<i>Cogeneration</i>	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
<i>Imports</i>	171	156	153	207	284	356	355	334	323	320	266	130	134	166	241
<i>Regional Transfers (In)</i>	27	39	159	153	333	302	297	307	313	318	319	42	162	44	204
<i>Large Thermal</i>	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	332	0	930	878
<i>Non-Utility Generation</i>	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
<i>Augmentation Purchases</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Augmentation Resources</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	1305	1315	1418	1472	1734	1776	1774	1760	1776	1770	1712	602	392	1228	1413
<i>Total Resources</i>	8953	7698	7409	8064	9520	9259	9345	8468	8030	6687	7061	9399	7856	8575	8431
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Hydro Maintenance</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Transmission Losses</i>	-252	-217	-209	-227	-268	-261	-264	-239	-226	-189	-199	-265	-222	-242	-238

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>Total Reserves, Maintenance & Losses</i>	-252	-217	-209	-227	-268	-261	-264	-239	-226	-189	-199	-265	-222	-242	-238
<i>Total Net Resources</i>	8701	7481	7200	7837	9251	8997	9082	8229	7804	6498	6862	9134	7635	8333	8193
<i>Total Firm Surplus/Deficit</i>	541	-336	-184	195	337	-540	-563	-843	-377	-1153	-868	954	-202	-4.5	-173

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Non-Utility Obligations															
<i>Fed. Agencies 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>USBR 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>DSI 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Fed. Agencies 2012 PSC</i>	124	124	113	114	136	150	171	161	144	131	131	125	122	137	136
<i>USBR 2012 PSC</i>	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>DSI 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Non-Utility Obligations</i>	380	380	332	208	151	182	241	240	195	355	355	414	407	447	296
Transfers Out															
<i>NGP 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>IOU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2012 PSC</i>	3588	3591	3312	3280	3754	4159	4216	4019	3528	3401	3401	3395	3539	3785	3664
<i>GPU 2012 PSC</i>	1477	1477	1468	1646	1957	2166	2167	2040	1863	1693	1693	1543	1489	1492	1749
<i>NGP 2012 Slice PSC</i>	413	348	330	368	425	411	409	364	349	263	291	470	401	395	382
<i>GPU 2012 Slice PSC</i>	1684	1419	1347	1502	1734	1677	1671	1486	1423	1073	1188	1918	1636	1611	1559
<i>IOU 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Exports</i>	628	625	621	579	577	580	573	571	576	611	613	644	651	640	604
<i>Regional Transfers (Out)</i>	79	65	59	145	408	480	479	458	345	315	286	54	58	74	243
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Transfers Out</i>	7870	7525	7137	7521	8855	9472	9515	8939	8083	7356	7472	8023	7774	7997	8200
<i>Total Firm Obligations</i>	8249	7905	7469	7729	9006	9654	9756	9179	8278	7712	7828	8437	8181	8444	8497
Hydro Resources															
<i>Regulated Hydro</i>	7125	5879	5533	6134	7372	7232	7257	6396	5855	4263	4798	7963	6576	6745	6513
<i>Independent Hydro</i>	399	376	328	329	287	198	179	176	262	385	422	708	761	476	375
<i>Operational Peaking Adj.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Non-Fed CER (Canada)</i>	136	136	136	136	136	136	136	136	136	135	135	135	135	135	136
<i>Total Hydro Resources</i>	7660	6391	5997	6600	7795	7566	7572	6708	6253	4784	5354	8806	7472	7355	7024
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Renewables</i>	54	68	52	57	61	59	62	60	81	74	70	73	81	66	65
<i>Cogeneration</i>	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
<i>Imports</i>	170	156	154	207	284	357	355	334	322	319	266	130	134	166	241
<i>Regional Transfers (In)</i>	27	39	159	153	305	275	269	278	285	289	290	42	162	44	190
<i>Large Thermal</i>	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
<i>Non-Utility Generation</i>	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
<i>Augmentation Purchases</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Augmentation Resources</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	1304	1315	1419	1472	1707	1749	1746	1732	1747	1741	1683	1300	1422	1328	1552
<i>Total Resources</i>	8964	7706	7416	8072	9502	9315	9318	8439	8001	6524	7038	10106	8893	8684	8576
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Hydro Maintenance</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Transmission Losses</i>	-253	-217	-209	-228	-268	-263	-263	-238	-226	-184	-198	-285	-251	-245	-242

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>Total Reserves, Maintenance & Losses</i>	-253	-217	-209	-228	-268	-263	-263	-238	-226	-184	-198	-285	-251	-245	-242
<i>Total Net Resources</i>	8712	7488	7207	7844	9234	9052	9055	8201	7775	6340	6839	9821	8643	8439	8334
<i>Total Firm Surplus/Deficit</i>	462	-417	-262	115	228	-602	-701	-978	-503	-1371	-988	1384	461	-4.7	-163

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Non-Utility Obligations															
<i>Fed. Agencies 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>USBR 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>DSI 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Fed. Agencies 2012 PSC</i>	138	137	125	127	153	169	176	165	148	135	135	128	125	140	144
<i>USBR 2012 PSC</i>	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>DSI 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Non-Utility Obligations</i>	394	392	344	221	167	200	246	244	198	359	359	417	411	450	305
Transfers Out															
<i>NGP 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>IOU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2012 PSC</i>	3673	3646	3377	3343	3821	4229	4285	4074	3571	3463	3463	3458	3605	3853	3727
<i>GPU 2012 PSC</i>	1502	1501	1493	1669	1981	2189	2191	2064	1886	1716	1716	1566	1512	1515	1772
<i>NGP 2012 Slice PSC</i>	414	349	330	368	425	425	408	363	348	243	292	443	348	382	374
<i>GPU 2012 Slice PSC</i>	1689	1424	1346	1500	1732	1735	1666	1482	1419	993	1190	1808	1422	1557	1528
<i>IOU 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Exports</i>	616	612	609	567	564	568	561	559	564	599	601	630	637	623	591
<i>Regional Transfers (Out)</i>	79	65	59	145	408	480	479	458	345	315	286	54	58	74	243
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Transfers Out</i>	7974	7597	7215	7591	8931	9626	9590	9000	8133	7328	7547	7959	7581	8004	8236
<i>Total Firm Obligations</i>	8368	7989	7559	7812	9098	9826	9836	9244	8331	7687	7906	8376	7991	8454	8540
Hydro Resources															
<i>Regulated Hydro</i>	7138	5889	5541	6134	7372	7498	7222	6364	5824	3870	4798	7963	6576	6745	6513
<i>Independent Hydro</i>	399	376	328	329	287	198	179	176	262	385	422	708	761	476	375
<i>Operational Peaking Adj.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Non-Fed CER (Canada)</i>	135	135	135	135	135	135	135	135	135	133	133	133	133	133	134
<i>Total Hydro Resources</i>	7671	6399	6003	6598	7794	7831	7536	6675	6221	4389	5353	8804	7470	7354	7022
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Renewables</i>	54	68	52	57	61	59	62	60	81	74	70	74	80	66	65
<i>Cogeneration</i>	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
<i>Imports</i>	169	156	154	207	285	355	355	334	323	319	266	130	134	161	241
<i>Regional Transfers (In)</i>	27	39	132	132	150	136	130	137	147	146	147	43	158	44	115
<i>Large Thermal</i>	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	498	0	764	878
<i>Non-Utility Generation</i>	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
<i>Augmentation Purchases</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Augmentation Resources</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	1303	1315	1392	1450	1553	1609	1608	1590	1609	1597	1540	769	387	1058	1324
<i>Total Resources</i>	8975	7714	7395	8049	9347	9440	9143	8265	7830	5986	6893	9573	7857	8412	8346
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Hydro Maintenance</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Transmission Losses</i>	-253	-218	-209	-227	-264	-266	-258	-233	-221	-169	-194	-270	-222	-237	-235

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>Total Reserves, Maintenance & Losses</i>	-253	-218	-209	-227	-264	-266	-258	-233	-221	-169	-194	-270	-222	-237	-235
<i>Total Net Resources</i>	8722	7496	7186	7822	9083	9173	8885	8032	7609	5817	6699	9303	7635	8175	8111
<i>Total Firm Surplus/Deficit</i>	354	-493	-372	9.2	-14	-653	-950	-1212	-722	-1869	-1207	927	-356	-279	-429

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Non-Utility Obligations															
<i>Fed. Agencies 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>USBR 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>DSI 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Fed. Agencies 2012 PSC</i>	141	140	128	130	157	174	178	168	150	136	136	129	126	142	147
<i>USBR 2012 PSC</i>	256	256	219	94	14	31	70	85	50	224	224	289	286	310	161
<i>DSI 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Non-Utility Obligations</i>	397	396	347	224	171	205	248	252	200	361	361	418	412	452	307
Transfers Out															
<i>NGP 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>IOU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2012 PSC</i>	3739	3711	3441	3408	3891	4302	4359	4150	3655	3529	3529	3524	3672	3923	3798
<i>GPU 2012 PSC</i>	1525	1524	1515	1722	2036	2246	2248	2057	1941	1770	1770	1619	1564	1568	1817
<i>NGP 2012 Slice PSC</i>	415	350	330	371	427	414	413	367	352	265	293	474	406	398	385
<i>GPU 2012 Slice PSC</i>	1691	1426	1348	1512	1744	1691	1685	1499	1437	1083	1197	1934	1655	1623	1570
<i>IOU 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Exports</i>	599	597	593	554	553	556	548	547	552	587	589	592	598	593	573
<i>Regional Transfers (Out)</i>	79	65	59	145	408	480	479	458	345	315	286	54	58	74	244
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Transfers Out</i>	8048	7672	7287	7712	9059	9689	9732	9079	8282	7549	7665	8196	7952	8179	8387
<i>Total Firm Obligations</i>	8446	8068	7634	7937	9230	9894	9980	9331	8483	7910	8026	8614	8364	8631	8694
Hydro Resources															
<i>Regulated Hydro</i>	7138	5889	5541	6134	7372	7232	7257	6396	5855	4263	4798	7963	6576	6745	6514
<i>Independent Hydro</i>	399	376	328	329	287	198	179	176	262	385	422	708	761	476	375
<i>Operational Peaking Adj.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Non-Fed CER (Canada)</i>	133	133	133	133	133	133	133	133	133	132	132	132	132	132	133
<i>Total Hydro Resources</i>	7670	6398	6002	6597	7792	7563	7569	6705	6250	4781	5351	8803	7469	7352	7022
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Renewables</i>	54	68	52	57	61	59	62	60	81	74	70	74	80	66	65
<i>Cogeneration</i>	20	20	21	22	25	26	27	27	26	0	0	0	0	0	16
<i>Imports</i>	165	151	146	202	281	351	352	330	319	319	265	130	134	150	237
<i>Regional Transfers (In)</i>	27	39	132	132	151	137	136	136	141	146	147	43	158	44	115
<i>Large Thermal</i>	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
<i>Non-Utility Generation</i>	2.6	2.6	2.6	53	53	53	53	53	53	53	53	53	53	53	44
<i>Augmentation Purchases</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Augmentation Resources</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	1299	1310	1384	1496	1599	1655	1660	1635	1650	1622	1565	1328	1455	1343	1508
<i>Total Resources</i>	8969	7708	7385	8093	9392	9218	9230	8340	7900	6403	6917	10131	8924	8695	8530
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Hydro Maintenance</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Transmission Losses</i>	-253	-217	-208	-228	-265	-260	-260	-235	-223	-181	-195	-286	-252	-245	-241

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>Total Reserves, Maintenance & Losses</i>	-253	-217	-208	-228	-265	-260	-260	-235	-223	-181	-195	-286	-252	-245	-241
<i>Total Net Resources</i>	8716	7491	7177	7865	9127	8958	8969	8105	7678	6222	6721	9845	8672	8450	8289
<i>Total Firm Surplus/Deficit</i>	270	-578	-456	-72	-104	-936	-1011	-1226	-805	-1688	-1304	1231	308	-182	-405

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Non-Utility Obligations															
<i>Fed. Agencies 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>USBR 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>DSI 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Fed. Agencies 2012 PSC</i>	142	142	130	132	159	176	243	226	199	181	179	170	168	190	176
<i>USBR 2012 PSC</i>	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>DSI 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Non-Utility Obligations</i>	398	398	348	226	173	207	314	305	249	405	404	459	454	500	337
Transfers Out															
<i>NGP 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>IOU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2012 PSC</i>	3792	3795	3507	3474	3958	4370	4412	4234	3718	3605	3580	3588	3737	3992	3864
<i>GPU 2012 PSC</i>	1577	1578	1568	1758	2072	2280	2282	2155	1976	1807	1805	1655	1601	1605	1860
<i>NGP 2012 Slice PSC</i>	417	352	333	370	426	427	409	364	349	245	294	442	353	390	377
<i>GPU 2012 Slice PSC</i>	1702	1436	1358	1511	1737	1740	1670	1487	1424	998	1201	1805	1441	1591	1537
<i>IOU 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Exports</i>	569	566	563	524	531	533	526	525	531	566	569	573	578	579	550
<i>Regional Transfers (Out)</i>	79	65	59	145	408	480	479	458	345	314	287	54	58	74	243
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Transfers Out</i>	8136	7792	7388	7783	9132	9830	9780	9223	8342	7535	7736	8117	7769	8232	8431
<i>Total Firm Obligations</i>	8535	8190	7737	8009	9305	10037	10093	9527	8592	7940	8139	8576	8223	8732	8768
Hydro Resources															
<i>Regulated Hydro</i>	7138	5889	5541	6134	7372	7498	7222	6364	5824	3870	4798	7963	6576	6745	6513
<i>Independent Hydro</i>	399	376	328	329	287	198	179	176	262	385	422	708	761	476	375
<i>Operational Peaking Adj.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Non-Fed CER (Canada)</i>	132	132	132	132	132	132	132	132	132	130	130	130	130	130	131
<i>Total Hydro Resources</i>	7668	6396	6000	6595	7791	7828	7533	6672	6218	4385	5350	8801	7467	7351	7019
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Renewables</i>	54	68	52	57	61	59	62	60	81	74	70	73	80	66	65
<i>Cogeneration</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Imports</i>	155	141	135	191	252	323	323	302	292	292	263	130	134	150	221
<i>Regional Transfers (In)</i>	27	39	131	137	144	136	135	136	140	145	158	42	157	44	115
<i>Large Thermal</i>	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	399	0	864	878
<i>Non-Utility Generation</i>	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
<i>Augmentation Purchases</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Augmentation Resources</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	1319	1330	1401	1467	1539	1600	1603	1580	1596	1594	1573	697	424	1177	1332
<i>Total Resources</i>	8987	7726	7401	8063	9330	9428	9136	8252	7813	5979	6923	9498	7891	8527	8351
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Hydro Maintenance</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Transmission Losses</i>	-253	-218	-209	-227	-263	-266	-258	-233	-220	-169	-195	-268	-223	-240	-235

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>Total Reserves, Maintenance & Losses</i>	-253	-218	-209	-227	-263	-266	-258	-233	-220	-169	-195	-268	-223	-240	-235
<i>Total Net Resources</i>	8734	7508	7192	7835	9067	9162	8878	8019	7593	5810	6728	9230	7668	8287	8116
<i>Total Firm Surplus/Deficit</i>	199	-683	-544	-174	-238	-875	-1215	-1508	-999	-2130	-1412	654	-555	-445	-652

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Non-Utility Obligations															
<i>Fed. Agencies 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>USBR 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>DSI 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Fed. Agencies 2012 PSC</i>	187	187	171	175	215	239	245	227	200	181	182	172	169	192	198
<i>USBR 2012 PSC</i>	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>DSI 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Non-Utility Obligations</i>	443	443	389	269	229	270	316	306	251	405	406	461	455	502	358
Transfers Out															
<i>NGP 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>IOU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2012 PSC</i>	3860	3863	3572	3536	4027	4444	4505	4307	3788	3648	3674	3656	3807	4065	3935
<i>GPU 2012 PSC</i>	1615	1615	1605	1804	2118	2327	2329	2201	2022	1851	1853	1701	1647	1651	1905
<i>NGP 2012 Slice PSC</i>	418	353	334	371	432	419	417	372	354	268	298	476	407	399	388
<i>GPU 2012 Slice PSC</i>	1705	1439	1361	1514	1762	1709	1703	1518	1444	1095	1215	1941	1662	1629	1582
<i>IOU 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Exports</i>	554	551	548	509	516	518	511	505	471	476	479	483	488	489	506
<i>Regional Transfers (Out)</i>	79	65	59	145	307	379	378	357	295	265	237	54	58	74	201
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Transfers Out</i>	8230	7886	7479	7880	9161	9796	9843	9260	8375	7604	7755	8311	8069	8308	8516
<i>Total Firm Obligations</i>	8673	8329	7868	8148	9391	10066	10159	9567	8626	8009	8161	8771	8524	8810	8875
Hydro Resources															
<i>Regulated Hydro</i>	7138	5889	5541	6134	7372	7232	7257	6396	5855	4263	4798	7963	6576	6745	6514
<i>Independent Hydro</i>	399	376	328	329	287	198	179	176	262	385	422	708	761	476	375
<i>Operational Peaking Adj.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Non-Fed CER (Canada)</i>	130	130	130	130	130	130	130	130	130	128	128	128	128	128	129
<i>Total Hydro Resources</i>	7667	6394	5998	6594	7789	7560	7566	6701	6247	4777	5348	8799	7465	7349	7019
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Renewables</i>	54	68	52	57	61	59	62	60	81	74	70	73	80	66	65
<i>Cogeneration</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Imports</i>	155	141	135	191	252	323	323	297	247	217	188	55	59	75	192
<i>Regional Transfers (In)</i>	27	39	76	79	89	84	75	80	86	96	91	42	102	44	74
<i>Large Thermal</i>	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
<i>Non-Utility Generation</i>	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
<i>Augmentation Purchases</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Augmentation Resources</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	1319	1330	1346	1410	1484	1549	1543	1520	1496	1469	1431	1253	1324	1268	1413
<i>Total Resources</i>	8986	7724	7344	8004	9273	9108	9109	8221	7743	6247	6780	10052	8789	8617	8432
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Hydro Maintenance</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Transmission Losses</i>	-253	-218	-207	-226	-262	-257	-257	-232	-218	-176	-191	-283	-248	-243	-238

Continued

Loads and Resources - Federal System
 PNW Loads and Resource Study
 2017 - 2018 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>Total Reserves, Maintenance & Losses</i>	-253	-218	-207	-226	-262	-257	-257	-232	-218	-176	-191	-283	-248	-243	-238
<i>Total Net Resources</i>	8732	7506	7137	7778	9012	8851	8852	7989	7525	6070	6588	9769	8541	8374	8195
<i>Total Firm Surplus/Deficit</i>	59	-823	-730	-370	-379	-1214	-1307	-1577	-1101	-1939	-1572	998	17	-436	-680

Loads and Resources - Federal System
PNW Loads and Resource Study
2018 - 2019 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Non-Utility Obligations															
<i>Fed. Agencies 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>USBR 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>DSI 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Fed. Agencies 2012 PSC</i>	189	189	172	176	217	241	248	230	203	183	183	174	171	194	200
<i>USBR 2012 PSC</i>	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>DSI 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Non-Utility Obligations</i>	445	445	390	270	231	272	318	309	253	407	407	463	457	504	360
Transfers Out															
<i>NGP 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>GPU 2002 Slice PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>IOU 2002 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>NGP 2012 PSC</i>	3931	3935	3640	3605	4100	4522	4582	4366	3858	3729	3729	3724	3878	4140	4005
<i>GPU 2012 PSC</i>	1661	1661	1651	1849	2163	2372	2374	2247	2067	1897	1897	1746	1692	1696	1950
<i>NGP 2012 Slice PSC</i>	419	354	334	372	433	433	416	371	353	249	298	440	355	395	381
<i>GPU 2012 Slice PSC</i>	1708	1442	1364	1517	1765	1768	1698	1514	1440	1015	1218	1797	1447	1611	1552
<i>IOU 2012 PSC</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Exports</i>	465	462	459	450	457	459	452	439	428	428	428	428	428	428	443
<i>Regional Transfers (Out)</i>	79	65	59	145	307	379	378	357	295	265	237	54	58	74	201
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Transfers Out</i>	8262	7918	7508	7939	9224	9933	9901	9293	8441	7583	7807	8189	7858	8343	8533
<i>Total Firm Obligations</i>	8707	8363	7898	8209	9455	10205	10219	9602	8694	7991	8215	8652	8315	8847	8893
Hydro Resources															
<i>Regulated Hydro</i>	7138	5889	5541	6134	7372	7498	7222	6364	5824	3870	4798	7963	6576	6745	6513
<i>Independent Hydro</i>	399	376	328	329	287	198	179	176	262	385	422	708	761	476	375
<i>Operational Peaking Adj.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Non-Fed CER (Canada)</i>	128	128	128	128	128	128	128	128	128	127	127	127	127	127	128
<i>Total Hydro Resources</i>	7665	6393	5997	6592	7788	7824	7529	6668	6214	4382	5346	8798	7464	7347	7016
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Renewables</i>	54	68	52	57	61	59	62	60	81	74	70	73	81	66	65
<i>Cogeneration</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Imports</i>	80	66	60	146	207	278	278	257	247	217	188	55	59	75	161
<i>Regional Transfers (In)</i>	27	39	79	76	89	83	75	55	57	55	55	0	57	0	55
<i>Large Thermal</i>	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	332	0	930	878
<i>Non-Utility Generation</i>	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
<i>Augmentation Purchases</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Augmentation Resources</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	1244	1255	1274	1362	1439	1503	1498	1455	1467	1428	1395	513	249	1123	1211
<i>Total Resources</i>	8909	7647	7270	7954	9226	9327	9027	8123	7681	5810	6741	9310	7713	8471	8227
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Hydro Maintenance</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Federal Transmission Losses</i>	-251	-216	-205	-224	-260	-263	-255	-229	-217	-164	-190	-263	-218	-239	-232

Continued

Loads and Resources - Federal System
 PNW Loads and Resource Study
 2018 - 2019 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>Total Reserves, Maintenance & Losses</i>	-251	-216	-205	-224	-260	-263	-255	-229	-217	-164	-190	-263	-218	-239	-232
<i>Total Net Resources</i>	8658	7432	7065	7730	8966	9064	8772	7894	7465	5646	6551	9048	7495	8232	7995
<i>Total Firm Surplus/Deficit</i>	-49	-931	-833	-479	-489	-1141	-1447	-1708	-1230	-2344	-1663	396	-820	-615	-898

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Section 5
Monthly Federal 70-Water Year
Surplus/Deficit
Average Energy in Megawatts

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70-Water Year Surplus/Deficit
Federal Tables
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-30: Federal Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	1630	-145	393	305	159	-436	-602	-690	373	-395	967	555	2029	904	337
1930 Federal Surplus/Deficit	464	-394	254	550	242	-341	-509	-738	36	-88	2095	234	693	722	184
1931 Federal Surplus/Deficit	-39	-256	80	377	407	-192	-612	-628	-219	538	-712	965	552	985	128
1932 Federal Surplus/Deficit	967	51	554	-39	-194	-453	-1156	-1211	666	2134	4421	5518	3958	1654	1099
1933 Federal Surplus/Deficit	427	292	667	537	-259	563	3099	1540	109	1941	2482	4243	3817	3180	1674
1934 Federal Surplus/Deficit	2968	1682	950	1013	1948	3207	3446	3111	3411	4052	4351	4516	3782	1711	2798
1935 Federal Surplus/Deficit	67	-342	412	369	-536	-127	2483	2895	-134	860	2238	3695	2579	2617	1295
1936 Federal Surplus/Deficit	2186	69	124	403	93	-501	-1455	-259	102	442	4095	4529	4160	1266	988
1937 Federal Surplus/Deficit	919	45	-15	489	499	-410	-447	-883	-393	-1056	-770	1554	829	345	102
1938 Federal Surplus/Deficit	1091	234	372	462	-25	427	2564	600	1999	3078	4653	5271	3904	2147	1861
1939 Federal Surplus/Deficit	386	-278	736	594	95	-612	-431	-701	820	1241	3659	4720	1877	869	880
1940 Federal Surplus/Deficit	8.8	-498	-48	640	513	676	-612	-344	2439	3006	3710	3183	2974	7.3	1049
1941 Federal Surplus/Deficit	-232	-496	341	439	407	138	-875	-543	1334	253	933	1324	920	820	383
1942 Federal Surplus/Deficit	721	191	962	13	363	873	658	731	-24	419	2590	3129	4532	3209	1366
1943 Federal Surplus/Deficit	2211	795	546	537	-243	42	1916	2201	2603	4457	4142	5433	3922	3043	2148
1944 Federal Surplus/Deficit	1577	-109	-381	417	187	-527	-539	-576	132	-320	1128	335	85	135	36
1945 Federal Surplus/Deficit	683	10	700	18	-188	-517	-921	-1239	-235	-896	-1436	3507	3271	655	362
1946 Federal Surplus/Deficit	617	-186	97	175	468	641	1222	76	3127	3899	4627	5025	3888	2972	1857
1947 Federal Surplus/Deficit	1626	243	636	342	421	2782	3059	2774	3498	3021	3430	4902	4314	3160	2503
1948 Federal Surplus/Deficit	1368	-20	481	2234	2160	1397	3901	1209	1830	2073	4319	5439	3574	3831	2504
1949 Federal Surplus/Deficit	2770	1718	848	745	231	371	-486	1092	3568	3465	4483	5393	4107	452	1878
1950 Federal Surplus/Deficit	231	-616	-296	424	-20	177	2055	2869	4095	4092	4011	4904	3494	3449	2079
1951 Federal Surplus/Deficit	1953	899	647	1313	1575	3122	3642	3263	4098	3996	4416	5121	3883	3703	3001
1952 Federal Surplus/Deficit	2624	330	468	1764	1074	1491	3925	1527	840	4569	4715	5411	4381	2506	2461
1953 Federal Surplus/Deficit	1557	150	77	459	27	-449	10	2714	1147	-169	2352	4874	4291	3835	1568
1954 Federal Surplus/Deficit	1766	287	505	732	508	1035	1883	3513	1505	2843	3073	5419	3425	3005	2116
1955 Federal Surplus/Deficit	4222	3511	2425	750	1102	951	-170	-442	379	272	1646	2965	4028	3101	1671
1956 Federal Surplus/Deficit	2993	1416	281	913	1676	2989	3983	3757	4092	4246	3843	4946	3464	3787	3010
1957 Federal Surplus/Deficit	1872	763	587	916	38	850	837	442	2672	3459	3593	5644	3857	1739	1877
1958 Federal Surplus/Deficit	733	-279	396	459	342	-18	675	2398	1829	2276	4214	5712	4422	1650	1768
1959 Federal Surplus/Deficit	729	95	271	685	868	2189	3902	3734	2013	3880	3242	5035	3585	2304	2371
1960 Federal Surplus/Deficit	2130	633	2681	2753	2979	2488	2912	1250	2201	3958	4261	4163	4368	2429	2812
1961 Federal Surplus/Deficit	1131	-139	563	563	134	39	2199	1493	2776	3853	2188	5352	3967	2110	1894
1962 Federal Surplus/Deficit	1252	554	124	177	363	541	1390	1334	526	2809	4508	4806	4552	1126	1620
1963 Federal Surplus/Deficit	859	105	88	1147	1082	1998	2112	2035	94	1278	2145	3908	4539	2769	1828
1964 Federal Surplus/Deficit	1964	346	520	223	240	437	412	1160	32	1533	863	4326	4258	3615	1464
1965 Federal Surplus/Deficit	3003	773	1187	1272	933	3032	4066	3651	4043	2891	4245	5456	4756	2297	3008
1966 Federal Surplus/Deficit	2306	1376	698	854	179	356	1748	428	-220	3900	2895	3759	3323	2742	1597
1967 Federal Surplus/Deficit	1824	151	162	331	-8.6	541	3615	3949	1960	1698	298	3928	4014	3868	2019
1968 Federal Surplus/Deficit	2492	511	646	662	144	529	2509	2328	2017	-71	1397	2806	4034	3779	1799
1969 Federal Surplus/Deficit	2391	1222	1772	1322	1802	1541	3962	4192	2356	4002	4066	5270	4133	3482	2961
1970 Federal Surplus/Deficit	1250	-212	312	774	384	-187	55	2022	1642	1531	1761	3717	4742	2030	1461
1971 Federal Surplus/Deficit	668	-285	92	428	287	289	3953	3983	4068	4302	4287	5141	3788	3656	2505
1972 Federal Surplus/Deficit	3291	1657	820	901	363	756	3950	4045	3617	3557	3742	5158	3606	3096	2696
1973 Federal Surplus/Deficit	3952	2602	969	747	302	1108	671	-373	317	-959	893	2469	1409	817	986
1974 Federal Surplus/Deficit	-43	-594	-17	365	-328	2164	3786	3509	3853	4158	4041	5071	3616	3185	2411
1975 Federal Surplus/Deficit	2829	1751	613	160	137	-107	1375	1215	2631	449	2060	5319	4022	3762	1897
1976 Federal Surplus/Deficit	1372	809	966	1456	1935	3545	3693	3887	3288	4276	4445	5334	4335	3559	3116
1977 Federal Surplus/Deficit	4288	4261	3331	770	282	-395	-532	-358	188	-905	174	-269	-438	250	568
1978 Federal Surplus/Deficit	896	289	534	-480	-358	1127	1124	755	1623	4030	2931	4690	3503	2706	1612
1979 Federal Surplus/Deficit	1226	334	1849	927	401	-271	-250	969	2412	1390	1599	4509	1233	502	1213
1980 Federal Surplus/Deficit	-168	-492	-52	410	375	554	-1087	373	265	1058	3745	5530	4408	1460	1192
1981 Federal Surplus/Deficit	513	-267	503	498	501	2654	3714	2093	1812	87	1977	3420	4089	3994	2040
1982 Federal Surplus/Deficit	3317	2204	504	614	674	615	2637	4148	3692	4217	3635	5587	4095	3421	2714
1983 Federal Surplus/Deficit	3146	1342	1691	1463	882	1115	3450	1844	4005	3688	3955	4813	4304	3977	2807
1984 Federal Surplus/Deficit	3043	1346	951	757	2379	717	3865	1448	4350	4812	4846	3914	4678	3947	2841
1985 Federal Surplus/Deficit	2061	104	861	666	867	506	1108	-646	1856	3711	4095	4824	2065	240	1453
1986 Federal Surplus/Deficit	-546	-721	191	675	1427	-292	2086	2904	4257	4242	4031	3289	3723	2102	1976
1987 Federal Surplus/Deficit	1375	-102	30	220	739	-57	-532	-234	980	1837	1874	2885	3009	867	868
1988 Federal Surplus/Deficit	60	-583	-154	231	169	-774	-810	-790	-123	-132	1457	2077	83	1310	141
1989 Federal Surplus/Deficit	907	72	236	38	-173	-55	-922	-4.1	1409	3769	4434	4336	2576	600	1053
1990 Federal Surplus/Deficit	-446	-476	97	353	437	1316	2858	1797	1458	3575	4417	3862	4078	1987	1811
1991 Federal Surplus/Deficit	1691	630	-9.4	70	1706	1566	3673	3651	1128	2902	2739	5071	4065	3500	2357
1992 Federal Surplus/Deficit	3076	1185	218	265	-49	-706	-393	-782	1947	405	1086	1763	920	568	561

Table A-30: Federal Surplus/Deficit - By Water Year
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

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7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Federal Surplus/Deficit</i>	-299	-414	-264	271	139	-320	-508	-604	397	834	852	4081	1683	1483	580
<i>1994 Federal Surplus/Deficit</i>	1051	302	-292	243	559	189	-580	-202	58	-223	3028	2170	1301	908	539
<i>1995 Federal Surplus/Deficit</i>	-83	-474	-144	167	-137	6.3	163	1981	3163	2733	1428	3829	3635	2526	1411
<i>1996 Federal Surplus/Deficit</i>	973	111	426	987	2946	3523	3622	3169	3573	3920	4048	5485	4562	3826	3052
<i>1997 Federal Surplus/Deficit</i>	2940	702	528	642	282	1489	3719	3716	3787	4088	4041	5132	3845	3594	2713
<i>1998 Federal Surplus/Deficit</i>	2772	1252	1793	2789	1339	432	2284	1646	1991	1819	2000	4200	4328	2579	2278
-Ranked Averages-															
Top Ten Percent	2247	939	890	1146	1892	2638	3833	3338	3686	4020	4273	5075	4259	3514	2998
Middle Eighty Percent	1510	462	571	631	456	644	1485	1453	1817	2336	3006	4284	3472	2300	1731
Bottom Ten Percent	756	-205	125	341	211	-457	-634	-792	-61	-336	390	1318	1077	722	184

Table A-30: Federal Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	1250	-623	179	235	84	-502	-630	-717	352	-784	173	-238	1235	767	66
1930 Federal Surplus/Deficit	80	-873	40	480	168	-408	-537	-766	14	-476	1302	-559	-101	586	-87
1931 Federal Surplus/Deficit	-424	-734	-133	307	333	-258	-640	-655	-241	150	-1509	173	-241	850	-143
1932 Federal Surplus/Deficit	586	-425	342	-110	-269	-519	-1185	-1238	643	1746	4081	5274	3918	1519	955
1933 Federal Surplus/Deficit	43	-184	454	466	-335	498	3058	1515	87	1555	1689	3459	3774	3224	1480
1934 Federal Surplus/Deficit	2592	1210	738	943	1859	3628	3888	3781	3367	4284	4494	3733	2956	1577	2722
1935 Federal Surplus/Deficit	-318	-820	199	298	-612	-193	2450	2839	-157	472	1446	2910	1788	2485	1022
1936 Federal Surplus/Deficit	1808	-408	-89	333	18	-567	-1485	-285	80	54	3302	3743	3794	1131	753
1937 Federal Surplus/Deficit	538	-432	-230	419	425	-477	-475	-910	-415	-1446	-1567	763	34	208	-170
1938 Federal Surplus/Deficit	710	-242	159	391	-100	361	2530	574	1978	2692	4444	4972	3114	2013	1656
1939 Federal Surplus/Deficit	1.9	-757	523	523	20	-679	-460	-727	798	853	2868	3936	1085	733	610
1940 Federal Surplus/Deficit	-376	-977	-262	570	439	611	-640	-371	2418	2620	2918	2397	2184	-129	779
1941 Federal Surplus/Deficit	-617	-974	128	368	333	72	-861	-621	1313	-134	140	532	125	684	112
1942 Federal Surplus/Deficit	338	-286	750	-59	288	806	630	706	-46	30	1797	2342	3742	3076	1097
1943 Federal Surplus/Deficit	1832	320	333	467	-319	-25	1881	2150	2581	4737	4543	4642	3768	2909	2004
1944 Federal Surplus/Deficit	1196	-588	-597	346	112	-594	-567	-602	110	-708	335	-458	-711	-1.8	-235
1945 Federal Surplus/Deficit	301	-467	487	-53	-263	-583	-950	-1267	-258	-1285	-2233	2720	2479	518	91
1946 Federal Surplus/Deficit	234	-664	-117	104	393	575	1195	48	3099	3502	4557	4795	3098	2840	1663
1947 Federal Surplus/Deficit	1246	-233	422	271	346	2709	3025	2724	3463	2636	2638	4109	3995	3028	2268
1948 Federal Surplus/Deficit	987	-498	268	2145	2087	1332	4250	580	1809	1686	3702	5205	3526	3867	2349
1949 Federal Surplus/Deficit	2393	1245	635	675	156	306	-514	1067	3523	3079	4466	4965	3677	316	1699
1950 Federal Surplus/Deficit	-154	-1096	-512	353	-95	111	2021	2820	4364	3762	3211	4108	3454	3428	1904
1951 Federal Surplus/Deficit	1573	423	434	1243	1501	3042	4454	3941	4400	4440	4463	4773	3093	3692	2999
1952 Federal Surplus/Deficit	2247	-146	254	1686	1000	1426	3884	1492	818	4144	4464	5178	4059	2372	2296
1953 Federal Surplus/Deficit	1177	-328	-138	389	-48	-516	-19	2665	1126	-558	1559	4087	4250	3816	1368
1954 Federal Surplus/Deficit	1386	-190	291	662	433	969	1849	3457	1484	2456	2280	4680	3388	3047	1924
1955 Federal Surplus/Deficit	3849	3044	2217	680	1028	886	-198	-468	358	-116	853	2177	3986	3144	1479
1956 Federal Surplus/Deficit	2617	943	67	843	1602	2908	4743	3300	4047	3875	3964	4712	3433	3773	2929
1957 Federal Surplus/Deficit	1492	288	374	845	-38	784	810	415	2651	3072	2801	5257	3828	1604	1704
1958 Federal Surplus/Deficit	350	-757	183	388	267	-85	648	2348	1808	1890	3421	5259	4280	1515	1578
1959 Federal Surplus/Deficit	346	-382	57	614	793	2116	4468	3670	1263	3483	2403	4137	3553	2170	2137
1960 Federal Surplus/Deficit	1752	157	2474	2659	2882	2416	2878	1225	2180	4313	3471	3378	4062	2296	2609
1961 Federal Surplus/Deficit	750	-617	350	493	59	-27	2166	1443	2756	3469	1395	4561	3525	1977	1650
1962 Federal Surplus/Deficit	871	78	-90	106	288	476	1363	1309	504	2422	4752	4022	4242	990	1433
1963 Federal Surplus/Deficit	476	-372	-126	1076	1007	1925	2081	1985	72	891	1353	3121	3778	2636	1558
1964 Federal Surplus/Deficit	1586	-130	307	152	165	371	385	1136	10.0	1144	68	3541	4213	3657	1271
1965 Federal Surplus/Deficit	2626	298	975	1203	859	2960	4829	4407	3999	2494	4654	4914	4288	2163	2960
1966 Federal Surplus/Deficit	1928	902	485	783	104	290	1722	403	-243	4102	2103	2974	2533	2610	1352
1967 Federal Surplus/Deficit	1445	-326	-52	260	-84	476	4193	3746	1144	1239	-522	3135	3441	3914	1748
1968 Federal Surplus/Deficit	2114	35	433	591	69	463	2475	2278	1997	-459	604	2019	3744	3647	1569
1969 Federal Surplus/Deficit	2013	748	1562	1252	1728	1476	4588	3646	2054	4421	4469	4969	3711	3350	2838
1970 Federal Surplus/Deficit	870	-690	98	704	309	-253	26	1973	1621	1144	968	2930	4594	1894	1243
1971 Federal Surplus/Deficit	285	-763	-123	357	212	223	4326	4461	3914	3703	3750	4906	3748	3696	2421
1972 Federal Surplus/Deficit	2916	1185	607	830	287	690	4215	4037	4996	4013	2951	4924	3564	3139	2730
1973 Federal Surplus/Deficit	3579	2133	756	676	227	1042	643	-399	295	-1348	100	1681	615	682	716
1974 Federal Surplus/Deficit	-428	-1074	-232	294	-404	2091	4394	3932	5015	4240	4445	4832	3584	3228	2522
1975 Federal Surplus/Deficit	2452	1279	401	89	63	-174	1340	1190	2610	61	1268	4528	3982	3802	1704
1976 Federal Surplus/Deficit	990	333	754	1386	1861	3959	4427	4098	2549	4458	4008	5021	3979	3601	3038
1977 Federal Surplus/Deficit	3916	3798	3127	700	207	-461	-561	-384	167	-1294	-620	-1062	-1232	114	298
1978 Federal Surplus/Deficit	515	-187	321	-551	-434	1052	1096	728	1601	3614	2139	3898	2712	2573	1340
1979 Federal Surplus/Deficit	844	-142	1640	857	326	-337	-278	944	2391	1004	805	3723	440	366	944
1980 Federal Surplus/Deficit	-553	-971	-266	340	301	489	-1096	323	243	671	2953	5123	3618	1324	954
1981 Federal Surplus/Deficit	129	-746	290	427	427	2582	4385	1034	1785	-349	1183	2616	4051	4040	1823
1982 Federal Surplus/Deficit	2942	1734	291	543	599	549	2603	4501	4963	3559	2805	5093	3501	3286	2611
1983 Federal Surplus/Deficit	2770	869	1481	1393	808	1049	3408	1793	5168	3270	3163	4021	3512	3846	2634
1984 Federal Surplus/Deficit	2666	871	739	686	2289	651	4439	638	4501	4188	4055	3126	4627	3815	2627
1985 Federal Surplus/Deficit	1682	-373	648	595	792	440	1081	-673	1836	3293	3303	4038	1273	104	1182
1986 Federal Surplus/Deficit	-933	-1201	-24	605	1353	-359	2052	2841	4801	4443	3239	2501	2931	1968	1775
1987 Federal Surplus/Deficit	994	-579	-185	149	664	-123	-560	-261	958	1451	1081	2098	2220	732	598
1988 Federal Surplus/Deficit	-326	-1062	-369	161	95	-841	-839	-817	-145	-521	663	1289	-712	1175	-130
1989 Federal Surplus/Deficit	525	-405	22	-33	-249	-121	-952	-31	1386	3370	3791	3552	1785	464	789
1990 Federal Surplus/Deficit	-833	-955	-117	283	362	1252	2826	1772	1437	3191	4508	3078	4031	1853	1639
1991 Federal Surplus/Deficit	1311	155	-224	-1.3	1633	1501	3956	3541	606	2504	1944	4284	3276	3542	2080
1992 Federal Surplus/Deficit	2700	712	4.3	194	-125	-773	-422	-809	1927	18	292	972	127	432	291

Table A-30: Federal Surplus/Deficit - By Water Year
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Federal Surplus/Deficit</i>	-685	-893	-479	200	65	-386	-536	-630	374	445	57	3294	888	1347	309
<i>1994 Federal Surplus/Deficit</i>	668	-175	-508	173	485	123	-609	-228	35	-611	2237	1382	509	772	268
<i>1995 Federal Surplus/Deficit</i>	-468	-953	-359	96	-212	-60	135	1930	3119	2347	634	3042	2843	2392	1137
<i>1996 Federal Surplus/Deficit</i>	591	-367	213	917	2857	3927	4469	3832	4732	3821	4453	5115	4513	3868	3221
<i>1997 Federal Surplus/Deficit</i>	2564	227	315	571	207	1424	4260	4269	4946	3758	4443	4898	3805	3635	2811
<i>1998 Federal Surplus/Deficit</i>	2395	778	1583	2696	1265	366	2250	1613	1971	1433	1207	3405	4284	2445	2066
-Ranked Averages-															
Top Ten Percent	1853	372	617	1059	1516	2814	4539	3928	3818	3895	4351	4915	3832	3440	2971
Middle Eighty Percent	1131	-2.3	366	561	418	572	1547	1366	1874	2026	2385	3583	3042	2213	1526
Bottom Ten Percent	373	-683	-89	271	136	-523	-663	-819	-83	-724	-405	527	284	586	-87

Table A-30: Federal Surplus/Deficit - By Water Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	1360	-472	144	102	102	-468	-520	-521	326	-438	844	596	1735	676	233
1930 Federal Surplus/Deficit	188	-722	4.8	333	183	-379	-520	-560	106	-146	1911	292	475	505	87
1931 Federal Surplus/Deficit	-316	-582	-169	178	343	-233	-614	-447	-130	453	-746	989	346	763	38
1932 Federal Surplus/Deficit	696	-273	307	-221	-232	-482	-1132	-1001	702	1958	4541	5784	3724	1389	1027
1933 Federal Surplus/Deficit	152	-32	419	327	-294	480	2879	1606	175	1780	2281	4105	3586	3486	1573
1934 Federal Surplus/Deficit	2705	1364	703	779	1790	3639	3892	4103	3281	4334	4727	4367	3361	1453	2821
1935 Federal Surplus/Deficit	-210	-669	163	168	-557	-173	2308	2846	-51	754	2052	3585	2263	2307	1146
1936 Federal Surplus/Deficit	1920	-256	-125	199	41	-528	-1422	-102	167	356	3805	4369	3932	1023	868
1937 Federal Surplus/Deficit	647	-280	-265	281	428	-443	-459	-692	-299	-1062	-804	1544	600	147	11
1938 Federal Surplus/Deficit	820	-90	124	250	-75	349	2380	712	1967	2854	4814	5430	3521	1859	1729
1939 Federal Surplus/Deficit	110	-605	488	377	44	-632	-448	-520	849	1113	3395	4556	1600	646	749
1940 Federal Surplus/Deficit	-268	-826	-298	422	440	590	-617	-183	2383	2788	3445	3096	2643	-169	905
1941 Federal Surplus/Deficit	-509	-822	93	230	339	76	-675	-530	1273	182	816	1328	688	601	274
1942 Federal Surplus/Deficit	447	-134	715	-174	295	770	585	839	52	333	2380	3043	4116	2866	1215
1943 Federal Surplus/Deficit	1943	472	297	320	-286	-20	1761	2193	2534	4771	4760	5218	3581	2704	2019
1944 Federal Surplus/Deficit	1305	-437	-634	210	128	-554	-551	-404	198	-364	999	389	-104	-52	-52
1945 Federal Surplus/Deficit	410	-315	452	-173	-229	-544	-912	-1034	-149	-909	-1436	3399	2918	440	257
1946 Federal Surplus/Deficit	343	-513	-153	-25	391	550	1116	208	3023	3599	4976	5293	3506	2642	1733
1947 Federal Surplus/Deficit	1356	-81	387	134	346	2564	2846	2738	3366	2802	3178	4711	3964	2821	2291
1948 Federal Surplus/Deficit	1097	-346	232	1897	1998	1270	4006	715	1806	1903	4186	6003	3358	4032	2405
1949 Federal Surplus/Deficit	2504	1399	600	516	166	296	-497	1180	3419	3221	4710	5491	3876	249	1765
1950 Federal Surplus/Deficit	-46	-945	-548	209	-73	108	1897	2829	4217	3844	3721	4712	3290	3198	1924
1951 Federal Surplus/Deficit	1684	576	398	1052	1438	2878	4354	4298	4236	4469	4685	5223	3502	3939	3084
1952 Federal Surplus/Deficit	2359	6.0	219	1470	968	1356	3657	1567	863	4189	4847	5922	4124	2200	2337
1953 Federal Surplus/Deficit	1287	-176	-174	249	-24	-480	-36	2680	1159	-222	2156	4691	4038	4054	1468
1954 Federal Surplus/Deficit	1497	-38	256	506	430	926	1732	3425	1500	2629	2837	5255	3229	3320	1997
1955 Federal Surplus/Deficit	3963	3201	2167	526	995	844	-199	-274	434	197	1490	2887	3786	3411	1589
1956 Federal Surplus/Deficit	2728	1097	31	677	1538	2753	4624	3101	3912	3953	4208	5439	3261	3885	2939
1957 Federal Surplus/Deficit	1603	441	338	680	-16	747	758	560	2599	3212	3331	5880	3635	1471	1749
1958 Federal Surplus/Deficit	459	-606	147	250	275	-75	600	2382	1806	2100	3914	5883	4172	1386	1638
1959 Federal Surplus/Deficit	455	-231	21	462	772	2003	4387	3389	1288	3589	2962	4642	3381	2006	2140
1960 Federal Surplus/Deficit	1868	310	2424	2386	2747	2291	2708	1330	2160	4355	3972	4027	3961	2127	2615
1961 Federal Surplus/Deficit	859	-466	315	349	79	-16	2036	1526	2706	3592	2007	5140	3483	1825	1702
1962 Federal Surplus/Deficit	981	231	-126	-18	295	457	1281	1405	574	2596	5110	4637	4173	887	1496
1963 Federal Surplus/Deficit	586	-220	-162	902	977	1825	1954	2039	164	1157	1968	3779	4152	2449	1649
1964 Federal Surplus/Deficit	1697	22	272	24	177	357	354	1248	105	1386	741	4181	4007	3898	1377
1965 Federal Surplus/Deficit	2738	450	941	1016	831	2795	4698	4564	3437	2643	4880	5360	4390	2000	2942
1966 Federal Surplus/Deficit	2040	1056	449	623	122	283	1615	545	-139	4171	2671	3643	2971	2425	1459
1967 Federal Surplus/Deficit	1556	-174	-88	125	-58	455	3955	3703	1179	1486	192	3797	3609	3736	1824
1968 Federal Surplus/Deficit	2226	187	398	439	85	441	2324	2316	1986	-130	1251	2738	3808	3391	1639
1969 Federal Surplus/Deficit	2124	901	1520	1066	1659	1407	4484	3402	2033	4456	4692	5666	3901	3127	2857
1970 Federal Surplus/Deficit	980	-538	63	544	312	-236	9.0	2029	1630	1388	1595	3601	4468	1745	1314
1971 Federal Surplus/Deficit	394	-612	-159	211	215	212	4072	4571	3495	3795	4233	5733	3563	3930	2472
1972 Federal Surplus/Deficit	3028	1339	572	659	286	654	3968	3968	5008	4105	3476	5725	3392	3407	2800
1973 Federal Surplus/Deficit	3692	2288	721	520	235	993	591	-217	371	-972	776	2418	1153	596	864
1974 Federal Surplus/Deficit	-320	-923	-268	154	-369	1974	4165	4083	4904	4265	4657	5380	3405	3487	2562
1975 Federal Surplus/Deficit	2564	1434	366	-41	76	-165	1244	1290	2559	362	1881	5110	3784	4031	1787
1976 Federal Surplus/Deficit	1099	485	719	1191	1783	3779	4326	3834	2502	4505	4468	5644	3931	3843	3068
1977 Federal Surplus/Deficit	4060	3955	3078	547	221	-427	-548	-195	257	-915	97	-182	-597	60	487
1978 Federal Surplus/Deficit	625	-34	286	-641	-391	989	1024	856	1608	3709	2705	4513	3139	2387	1440
1979 Federal Surplus/Deficit	954	10.0	1590	695	333	-311	-283	1056	2353	1257	1440	4350	985	297	1073
1980 Federal Surplus/Deficit	-445	-820	-301	204	308	471	-902	305	325	940	3476	5642	3998	1205	1068
1981 Federal Surplus/Deficit	238	-595	255	288	428	2448	4295	795	1789	-25	1800	3302	3850	3914	1849
1982 Federal Surplus/Deficit	3055	1890	256	388	583	520	2450	4543	4504	3631	3336	5575	3769	3063	2628
1983 Federal Surplus/Deficit	2882	1022	1436	1192	780	994	3203	1852	5135	3249	3676	4628	3890	4017	2717
1984 Federal Surplus/Deficit	2778	1025	704	523	2184	617	4178	764	4342	4249	4514	3785	4406	3566	2617
1985 Federal Surplus/Deficit	1792	-222	612	442	769	421	1005	-479	1829	3400	3800	4651	1776	49	1291
1986 Federal Surplus/Deficit	-826	-1051	-60	447	1298	-339	1918	2821	4878	4485	3747	3194	3346	1816	1865
1987 Federal Surplus/Deficit	1104	-428	-221	22	651	-107	-551	-82	1002	1683	1704	2811	2677	644	737
1988 Federal Surplus/Deficit	-217	-911	-405	36	116	-786	-805	-603	-39	-183	1312	2046	-106	1065	46
1989 Federal Surplus/Deficit	635	-253	-13	-152	-214	-105	-913	141	1408	3476	4266	4192	2261	390	918
1990 Federal Surplus/Deficit	-726	-804	-153	147	364	1197	2661	1847	1456	3332	4727	3744	3844	1706	1668
1991 Federal Surplus/Deficit	1422	307	-259	-122	1568	1432	3731	3508	670	2685	2529	4878	3675	3786	2189
1992 Federal Surplus/Deficit	2813	866	-31	66	-94	-723	-410	-598	1924	328	961	1745	692	360	456

Table A-30: Federal Surplus/Deficit - By Water Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Federal Surplus/Deficit</i>	-577	-742	-515	70	83	-358	-517	-426	448	730	736	3938	1407	1225	457
<i>1994 Federal Surplus/Deficit</i>	777	-23	-544	44	483	127	-591	-47	128	-275	2800	2133	1052	683	426
<i>1995 Federal Surplus/Deficit</i>	-360	-802	-394	-29	-180	-53	116	1987	3042	2533	1283	3706	3261	2216	1246
<i>1996 Federal Surplus/Deficit</i>	700	-215	178	747	2716	3717	4431	4130	4815	3903	4671	5566	4299	4095	3267
<i>1997 Federal Surplus/Deficit</i>	2676	380	279	414	210	1341	4235	4557	5016	3843	4663	5402	3622	3875	2890
<i>1998 Federal Surplus/Deficit</i>	2506	932	1538	2415	1214	350	2104	1682	1955	1664	1822	4040	4074	2268	2091
-Ranked Averages-															
Top Ten Percent	1964	525	581	881	1454	2667	4450	3984	3707	3967	4610	5472	3844	3538	3007
Middle Eighty Percent	1242	150	329	410	416	551	1465	1456	1867	2214	2916	4229	3193	2153	1610
Bottom Ten Percent	482	-531	-125	138	153	-487	-626	-609	1.9	-378	297	1322	838	506	88

Table A-30: Federal Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	1212	-523	195	16	9.8	-565	-394	-697	-6.9	-527	784	4.5	934	525	42
1930 Federal Surplus/Deficit	103	-758	68	247	92	-477	-625	-712	28	-234	1852	-300	-325	354	-96
1931 Federal Surplus/Deficit	-378	-628	-96	92	252	-329	-719	-597	-208	365	-810	398	-453	614	-144
1932 Federal Surplus/Deficit	591	-326	362	-307	-323	-579	-1238	-1153	623	1869	4395	4932	4287	1239	931
1933 Federal Surplus/Deficit	70	-102	465	241	-387	384	2764	1458	97	1694	2223	3101	4257	3533	1487
1934 Federal Surplus/Deficit	2492	1223	732	694	1693	4069	4140	4358	3160	4319	4613	3423	2344	1372	2681
1935 Federal Surplus/Deficit	-268	-701	225	82	-650	-270	2200	2684	-129	666	1993	2910	1465	2161	949
1936 Federal Surplus/Deficit	1745	-317	-50	113	-51	-625	-1529	-253	89	268	3746	3782	3245	874	691
1937 Federal Surplus/Deficit	541	-336	-184	195	337	-540	-563	-843	-377	-1153	-868	954	-202	-4.5	-173
1938 Federal Surplus/Deficit	705	-155	185	164	-167	252	2271	561	1890	2768	4710	4368	2724	1710	1503
1939 Federal Surplus/Deficit	31	-646	530	291	-48	-730	-553	-671	771	1025	3338	3816	802	495	554
1940 Federal Surplus/Deficit	-328	-855	-216	336	349	494	-723	-335	2306	2702	3387	2509	1847	-320	727
1941 Federal Surplus/Deficit	-556	-851	155	144	247	-21	-538	-702	936	94	756	739	-113	450	90
1942 Federal Surplus/Deficit	350	-199	744	-261	203	673	480	689	-26	243	2321	2456	3320	2719	1028
1943 Federal Surplus/Deficit	1769	377	348	233	-379	-118	1650	2035	2442	4651	4917	4254	4260	2554	1921
1944 Federal Surplus/Deficit	1162	-488	-538	123	36	-652	-438	-577	99	-470	560	-219	-906	-205	-240
1945 Federal Surplus/Deficit	315	-371	495	-260	-321	-641	-1018	-1187	-228	-998	-1500	2811	2119	288	72
1946 Federal Surplus/Deficit	249	-560	-84	-112	299	453	1010	57	2908	3476	4951	4218	2710	2495	1508
1947 Federal Surplus/Deficit	1212	-149	431	47	254	2469	2737	2582	3245	2717	3121	4126	3472	2664	2121
1948 Federal Surplus/Deficit	964	-403	282	1814	1904	1174	3891	563	1729	1817	4084	4989	4038	3704	2289
1949 Federal Surplus/Deficit	2300	1254	634	430	74	199	-602	1023	3296	3133	4702	4871	3259	97	1580
1950 Federal Surplus/Deficit	-118	-969	-455	123	-166	11	1787	2673	4090	3721	3663	3796	3786	3050	1813
1951 Federal Surplus/Deficit	1519	472	438	966	1345	2785	4495	4443	3512	4493	4677	4142	2705	3621	2827
1952 Federal Surplus/Deficit	2160	-70	267	1385	876	1260	3541	1410	786	4049	4784	4797	3619	2052	2122
1953 Federal Surplus/Deficit	1144	-241	-101	163	-115	-577	-142	2524	1082	-311	2097	3960	4714	3837	1380
1954 Federal Surplus/Deficit	1344	-110	307	420	339	830	1622	3263	1423	2543	2779	4204	3891	3469	1909
1955 Federal Surplus/Deficit	3501	2942	2103	440	905	748	-304	-425	357	109	1431	2300	4460	3561	1520
1956 Federal Surplus/Deficit	2511	967	95	592	1444	2659	4708	2463	3759	3806	4391	4361	3937	3723	2803
1957 Federal Surplus/Deficit	1443	343	383	594	-108	651	654	409	2483	3105	3273	5191	4316	1321	1670
1958 Federal Surplus/Deficit	358	-651	201	164	184	-173	496	2226	1730	2014	3848	5184	4143	1237	1504
1959 Federal Surplus/Deficit	357	-292	84	375	680	1908	4508	2635	1211	3467	2873	3591	4059	1856	2003
1960 Federal Surplus/Deficit	1694	219	2341	2303	2650	2197	2599	1181	2084	4339	3814	3347	3623	1980	2445
1961 Federal Surplus/Deficit	737	-518	359	263	-13	-113	1928	1369	2609	3470	1948	4117	4039	1677	1585
1962 Federal Surplus/Deficit	854	146	-55	-105	203	360	1178	1256	497	2509	4983	3881	3694	737	1318
1963 Federal Surplus/Deficit	479	-283	-91	816	886	1730	1844	1882	86	1070	1909	3192	3356	2301	1462
1964 Federal Surplus/Deficit	1535	-52	323	-62	84	260	250	1099	28	1296	679	3573	3992	3902	1263
1965 Federal Surplus/Deficit	2521	353	955	932	740	2700	4809	4262	3061	2503	4874	4291	3779	1850	2697
1966 Federal Surplus/Deficit	1857	926	485	537	30	187	1505	395	-218	4050	2613	3037	2175	2278	1264
1967 Federal Surplus/Deficit	1399	-240	-22	39	-150	359	3720	3541	1102	1400	132	3207	3959	3405	1698
1968 Federal Surplus/Deficit	2035	103	441	353	-6.9	345	2215	2159	1910	-219	1192	2151	3313	3060	1454
1969 Federal Surplus/Deficit	1938	779	1497	981	1569	1312	4619	2723	1956	4414	4617	4564	3291	2902	2604
1970 Federal Surplus/Deficit	853	-586	123	458	221	-333	-98	1873	1554	1301	1536	3014	4278	1595	1175
1971 Federal Surplus/Deficit	296	-655	-90	125	123	114	3956	4381	3375	3672	4127	4651	4235	4056	2373
1972 Federal Surplus/Deficit	2791	1195	602	572	194	557	3853	3805	4791	3938	3419	4658	3782	3556	2665
1973 Federal Surplus/Deficit	3295	2095	742	434	143	896	486	-369	293	-1061	717	1831	353	446	659
1974 Federal Surplus/Deficit	-382	-951	-191	68	-463	1879	4411	4343	4704	4248	4723	4337	4045	3635	2539
1975 Federal Surplus/Deficit	2355	1286	411	-128	-15	-262	1132	1140	2483	274	1823	4111	4457	4150	1701
1976 Federal Surplus/Deficit	964	383	743	1105	1688	3686	4467	3352	2426	4381	4403	4554	3543	3857	2872
1977 Federal Surplus/Deficit	3477	3435	2966	461	129	-525	-431	-371	153	-1023	-360	-773	-1399	-91	245
1978 Federal Surplus/Deficit	516	-107	337	-728	-484	891	920	704	1531	3588	2648	3774	2342	2238	1240
1979 Federal Surplus/Deficit	829	-64	1556	609	242	-408	-388	907	2271	1170	1380	3764	185	146	877
1980 Federal Surplus/Deficit	-498	-852	-221	118	217	375	-767	-118	247	853	3419	4884	3201	1055	874
1981 Federal Surplus/Deficit	150	-638	306	202	337	2354	3957	782	1713	-113	1740	2714	4526	3454	1752
1982 Federal Surplus/Deficit	2767	1720	307	302	492	424	2341	4328	4347	3507	3278	4497	4015	2913	2454
1983 Federal Surplus/Deficit	2655	893	1405	1106	688	897	3086	1694	4741	3126	3619	4043	3084	3914	2491
1984 Federal Surplus/Deficit	2556	895	728	436	2086	520	4056	612	4186	4127	4426	3197	4201	3418	2462
1985 Federal Surplus/Deficit	1621	-287	639	355	677	324	902	-394	1528	3276	3735	4066	977	-103	1101
1986 Federal Surplus/Deficit	-859	-1071	4.4	360	1207	-436	1808	2642	4927	4346	3689	2606	2548	1667	1688
1987 Federal Surplus/Deficit	970	-481	-152	-65	560	-204	-502	-418	925	1598	1645	2223	1851	494	549
1988 Federal Surplus/Deficit	-282	-938	-319	-50	25	-879	-911	-755	-117	-272	1251	1454	-908	915	-134
1989 Federal Surplus/Deficit	525	-314	53	-239	-306	-202	-898	-153	1329	3353	4202	3480	1463	239	721
1990 Federal Surplus/Deficit	-764	-836	-82	61	273	1102	2542	1699	1379	3249	4728	2959	3712	1558	1526
1991 Federal Surplus/Deficit	1272	216	-187	-208	1478	1337	3517	3346	593	2601	2472	4014	2879	3803	1979
1992 Federal Surplus/Deficit	2538	749	34	-21	-186	-821	-515	-680	1848	185	902	1149	-106	210	265

Table A-30: Federal Surplus/Deficit - By Water Year
 PNW Loads and Resource Study
 2012 - 2013 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Federal Surplus/Deficit</i>	-624	-778	-424	-16	-8.2	-455	-622	-577	368	640	667	3350	605	1074	278
<i>1994 Federal Surplus/Deficit</i>	658	-99	-455	-43	392	30	-660	-201	47	-366	2673	1545	254	533	241
<i>1995 Federal Surplus/Deficit</i>	-419	-836	-311	-115	-272	-150	11	1828	2921	2448	1223	3119	2462	2067	1058
<i>1996 Federal Surplus/Deficit</i>	587	-279	231	662	2620	3937	4554	4412	4740	3741	4865	4505	4300	4111	3203
<i>1997 Federal Surplus/Deficit</i>	2460	286	325	328	118	1245	4478	4810	4729	3721	4839	4339	3926	3879	2806
<i>1998 Federal Surplus/Deficit</i>	2299	808	1501	2332	1123	253	1994	1526	1879	1578	1764	3451	4625	2120	2002
-Ranked Averages-															
Top Ten Percent	1865	487	503	754	1378	3011	4522	4014	3627	3852	4666	4231	3505	3202	2842
Middle Eighty Percent	1079	56	387	329	322	414	1392	1271	1742	2119	2848	3497	2975	2056	1452
Bottom Ten Percent	382	-578	-54	52	62	-583	-667	-767	-116	-470	181	729	37	355	-96

Table A-30: Federal Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2013 - 2014 Operating Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	1134	-605	117	-65	-101	-592	-622	-826	-127	-647	668	433	1597	526	52
1930 Federal Surplus/Deficit	23	-840	-9.9	167	-18	-512	-765	-849	-100	-362	1591	129	339	355	-87
1931 Federal Surplus/Deficit	-459	-710	-173	12	143	-443	-850	-726	-328	245	-930	827	213	616	-133
1932 Federal Surplus/Deficit	512	-406	285	-388	-434	-580	-1382	-1411	501	1749	4338	5491	4564	1241	923
1933 Federal Surplus/Deficit	-10	-182	388	161	-499	270	2638	1332	-24	1577	2108	3660	4411	3888	1498
1934 Federal Surplus/Deficit	2384	1146	656	614	1585	4298	4617	4442	3000	4583	4606	3999	3108	1309	2821
1935 Federal Surplus/Deficit	-349	-783	148	2.1	-762	-385	2074	2560	-249	546	1879	3400	2132	2165	967
1936 Federal Surplus/Deficit	1668	-397	-128	33	-161	-578	-1675	-575	-31	148	3630	4214	3970	876	706
1937 Federal Surplus/Deficit	462	-417	-262	115	228	-602	-701	-978	-503	-1371	-988	1384	461	-4.7	-163
1938 Federal Surplus/Deficit	626	-236	108	83	-278	137	2144	433	1771	2651	4653	4928	3392	1713	1529
1939 Federal Surplus/Deficit	-49	-727	453	210	-158	-752	-417	-835	247	907	3224	4307	1469	496	564
1940 Federal Surplus/Deficit	-410	-937	-294	256	239	381	-855	-466	2187	2586	3273	2942	2516	-320	739
1941 Federal Surplus/Deficit	-637	-933	78	63	137	-135	-354	-860	474	-25	640	1169	550	451	97
1942 Federal Surplus/Deficit	271	-280	667	-342	92	558	349	561	-146	123	2205	2888	3989	2723	1040
1943 Federal Surplus/Deficit	1692	298	270	153	-491	-234	1520	1907	2323	4807	4895	4821	4418	2556	1918
1944 Federal Surplus/Deficit	1082	-570	-617	42	-75	-608	-367	-747	-61	-622	-275	210	-243	-205	-236
1945 Federal Surplus/Deficit	235	-452	418	-341	-431	-756	-1150	-1318	-348	-1119	-1621	3244	2785	287	83
1946 Federal Surplus/Deficit	169	-642	-162	-193	189	338	879	-73	2790	3359	4983	4776	3378	2499	1537
1947 Federal Surplus/Deficit	1134	-229	353	-34	143	2356	2609	2455	3129	2601	3007	4560	4198	2679	2140
1948 Federal Surplus/Deficit	885	-484	204	1736	1796	1061	3765	434	1611	1700	4018	5559	4197	3765	2279
1949 Federal Surplus/Deficit	2224	1176	556	349	-37	85	-422	529	3179	3016	4645	5311	3927	97	1594
1950 Federal Surplus/Deficit	-199	-1051	-534	42	-277	-104	1659	2546	3974	3605	3550	4354	3944	3053	1794
1951 Federal Surplus/Deficit	1441	392	361	886	1235	2673	4734	4159	2417	4472	4605	4703	3373	3686	2799
1952 Federal Surplus/Deficit	2084	-151	189	1306	767	1147	3416	1282	667	3932	4679	5368	4287	2055	2148
1953 Federal Surplus/Deficit	1066	-322	-179	83	-226	-682	-285	2397	963	-431	1982	4451	4872	3898	1360
1954 Federal Surplus/Deficit	1265	-191	229	340	228	716	1494	3139	1305	2425	2664	4768	4064	3819	1922
1955 Federal Surplus/Deficit	3342	2830	2013	360	795	635	-435	-553	239	-11	1315	2732	4617	3912	1515
1956 Federal Surplus/Deficit	2434	889	17	512	1335	2547	4695	2025	3643	3690	4615	4920	4093	3784	2790
1957 Federal Surplus/Deficit	1365	263	306	514	-219	537	525	281	2365	2987	3159	5682	4474	1323	1646
1958 Federal Surplus/Deficit	278	-732	123	83	73	-288	366	2099	1613	1897	3734	5675	4775	1239	1518
1959 Federal Surplus/Deficit	277	-373	6.2	295	570	1795	4420	2509	1091	3352	2793	4149	4223	1859	1990
1960 Federal Surplus/Deficit	1617	139	2251	2225	2543	2086	2472	1054	1966	4497	3757	3837	4292	1983	2477
1961 Federal Surplus/Deficit	658	-600	282	182	-124	-227	1801	1241	2492	3356	1834	4686	4199	1680	1568
1962 Federal Surplus/Deficit	775	66	-133	-186	92	247	1048	1128	378	2390	5052	4382	4419	738	1348
1963 Federal Surplus/Deficit	399	-363	-169	736	777	1617	1716	1755	-34	951	1794	3624	4025	2304	1475
1964 Federal Surplus/Deficit	1457	-132	246	-143	-26	147	119	973	-91	1176	561	4031	4305	4184	1272
1965 Federal Surplus/Deficit	2445	273	879	852	631	2588	4915	3674	2943	2385	4987	4849	4448	1852	2715
1966 Federal Surplus/Deficit	1780	847	408	457	-80	73	1376	267	-339	3937	2499	3493	2844	2283	1280
1967 Federal Surplus/Deficit	1322	-320	-100	-41	-261	245	3632	3418	983	1282	15	3647	4119	3466	1678
1968 Federal Surplus/Deficit	1959	23	364	273	-118	231	2088	2032	1793	-338	1077	2584	3994	3121	1473
1969 Federal Surplus/Deficit	1862	700	1409	902	1460	1199	4574	2507	1828	4310	4674	5130	3960	2963	2640
1970 Federal Surplus/Deficit	774	-667	45	378	111	-448	-231	1746	1435	1182	1420	3447	4946	1597	1187
1971 Federal Surplus/Deficit	216	-737	-169	44	12	-0.2	3829	4256	3257	3555	4065	5211	4389	4247	2373
1972 Federal Surplus/Deficit	2679	1117	525	492	83	443	3727	3679	5022	4331	3306	5215	4223	3907	2749
1973 Federal Surplus/Deficit	3182	2019	665	354	32	782	355	-132	142	-1203	551	2158	755	447	662
1974 Federal Surplus/Deficit	-463	-1034	-269	-13	-575	1767	4890	4814	4588	4444	4777	4888	4238	3984	2670
1975 Federal Surplus/Deficit	2278	1209	333	-210	-126	-378	1002	1012	2365	154	1708	4670	4612	4256	1691
1976 Federal Surplus/Deficit	884	303	666	1025	1579	3575	4678	2463	2309	4265	4289	5117	4212	3965	2876
1977 Federal Surplus/Deficit	3317	3276	2877	381	18	-640	-140	-551	-20	-1183	-1182	-344	-735	-90	246
1978 Federal Surplus/Deficit	437	-188	260	-810	-595	776	788	575	1412	3475	2533	4294	3009	2241	1259
1979 Federal Surplus/Deficit	751	-145	1465	530	132	-522	-232	430	2153	1053	1263	4197	849	146	886
1980 Federal Surplus/Deficit	-580	-934	-298	38	106	261	-476	-732	128	735	3305	5375	3869	1057	889
1981 Federal Surplus/Deficit	70	-719	228	122	227	2242	3917	535	1596	-233	1624	3147	4683	3562	1731
1982 Federal Surplus/Deficit	2655	1644	230	222	382	309	2214	4203	4231	3391	3164	5057	4176	2915	2436
1983 Federal Surplus/Deficit	2579	815	1314	1026	578	783	2959	1566	4626	3009	3506	4478	3750	3975	2509
1984 Federal Surplus/Deficit	2480	816	651	355	1978	405	3930	483	4069	4012	4312	3628	4868	3422	2476
1985 Federal Surplus/Deficit	1543	-369	561	274	566	210	772	-107	1010	3159	3621	4500	1642	-103	1111
1986 Federal Surplus/Deficit	-942	-1153	-74	280	1098	-550	1732	2507	4911	4242	3576	3038	3118	1670	1705
1987 Federal Surplus/Deficit	892	-562	-230	-146	449	-319	-210	-1062	805	1481	1530	2655	2551	496	561
1988 Federal Surplus/Deficit	-363	-1021	-397	-131	-85	-690	-1074	-915	-247	-419	1092	1632	-246	909	-128
1989 Federal Surplus/Deficit	446	-395	-25	-320	-420	-353	-606	-517	949	3236	4089	3971	2129	240	730
1990 Federal Surplus/Deficit	-846	-918	-160	-20	162	990	2420	1573	1261	3135	4725	3471	4478	1560	1559
1991 Federal Surplus/Deficit	1194	137	-265	-289	1369	1225	3429	3222	474	2486	2358	4578	3548	3931	2017
1992 Federal Surplus/Deficit	2425	671	-43	-101	-297	-678	-676	-429	1121	3.2	785	1571	560	211	269

Table A-30: Federal Surplus/Deficit - By Water Year
 PNW Loads and Resource Study
 2013 - 2014 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Federal Surplus/Deficit</i>	-705	-859	-502	-96	-118	-570	-754	-706	246	519	538	3781	1268	1075	289
<i>1994 Federal Surplus/Deficit</i>	579	-180	-534	-123	282	-83	-678	-343	-83	-495	2346	1977	920	535	252
<i>1995 Federal Surplus/Deficit</i>	-500	-917	-389	-195	-382	-264	-120	1699	2805	2332	1107	3552	3127	2069	1071
<i>1996 Federal Surplus/Deficit</i>	507	-360	154	582	2513	4264	4807	4595	4607	3570	5015	5064	4905	4222	3332
<i>1997 Federal Surplus/Deficit</i>	2382	206	247	247	7.4	1131	4910	4788	4553	3605	4879	4895	4447	4232	2905
<i>1998 Federal Surplus/Deficit</i>	2223	729	1410	2254	1014	139	1865	1399	1761	1461	1648	3881	4910	2123	1982
-Ranked Averages-															
Top Ten Percent	1816	527	375	623	1191	2704	4595	3736	3650	4074	4473	4845	4052	3586	2896
Middle Eighty Percent	991	-41	314	255	221	349	1353	1128	1556	1989	2768	3976	3476	2074	1463
Bottom Ten Percent	302	-659	-132	-29	-48	-601	-790	-908	-245	-614	-66	1123	701	355	-87

Table A-30: Federal Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	1027	-681	7.3	-170	-343	-686	-1008	-1038	-324	-866	449	-24	780	251	-214
1930 Federal Surplus/Deficit	-87	-917	-120	61	-260	-563	-1014	-1077	-317	-600	1025	-328	-478	81	-356
1931 Federal Surplus/Deficit	-569	-786	-283	-93	-99	-535	-1092	-956	-542	9.3	-1399	370	-604	341	-401
1932 Federal Surplus/Deficit	404	-482	177	-493	-676	-820	-1607	-1624	304	1530	4119	5034	4432	966	714
1933 Federal Surplus/Deficit	-120	-257	279	55	-741	31	2413	1120	-221	1358	1889	3203	4609	3697	1323
1934 Federal Surplus/Deficit	2312	1073	547	509	1343	4096	4449	4230	2802	4364	4387	3542	2290	1034	2565
1935 Federal Surplus/Deficit	-459	-859	38	-103	-1004	-624	1849	2348	-446	327	1659	2944	1315	1890	702
1936 Federal Surplus/Deficit	1563	-473	-237	-73	-403	-780	-1903	-832	-229	-71	3411	3757	3153	601	440
1937 Federal Surplus/Deficit	354	-493	-372	9.2	-14	-653	-950	-1212	-722	-1869	-1207	927	-356	-279	-429
1938 Federal Surplus/Deficit	518	-311	-1.7	-22	-520	-103	1919	221	1574	2432	4434	4471	2574	1438	1263
1939 Federal Surplus/Deficit	-159	-804	344	105	-401	-992	-602	-1052	5.5	687	3005	3850	652	221	298
1940 Federal Surplus/Deficit	-520	-1014	-404	151	-3.2	142	-1080	-678	1990	2366	3054	2485	1699	-594	474
1941 Federal Surplus/Deficit	-748	-1009	-32	-42	-105	-375	-579	-1073	276	-244	421	712	-267	176	-169
1942 Federal Surplus/Deficit	162	-356	558	-448	-150	318	124	349	-343	-96	1986	2431	3172	2449	774
1943 Federal Surplus/Deficit	1585	223	161	48	-733	-474	1295	1695	2125	4588	4869	4364	4613	2281	1744
1944 Federal Surplus/Deficit	974	-647	-729	-64	-317	-830	-612	-959	-258	-841	-494	-247	-1060	-480	-501
1945 Federal Surplus/Deficit	126	-528	309	-446	-674	-995	-1375	-1531	-545	-1338	-1840	2787	1968	13	-182
1946 Federal Surplus/Deficit	60	-718	-272	-299	-54	99	654	-285	2592	3140	4764	4319	2561	2224	1272
1947 Federal Surplus/Deficit	1026	-305	244	-140	-99	2117	2384	2242	2931	2382	2788	4103	3381	2404	1875
1948 Federal Surplus/Deficit	777	-560	95	1630	1554	821	3540	221	1414	1481	3799	5102	4385	3490	2096
1949 Federal Surplus/Deficit	2118	1103	447	244	-279	-155	-607	268	2982	2797	4426	4854	3110	-178	1328
1950 Federal Surplus/Deficit	-309	-1129	-645	-63	-519	-343	1434	2334	3776	3386	3331	3897	4138	2779	1612
1951 Federal Surplus/Deficit	1334	317	251	781	993	2434	4509	3946	2220	4253	4386	4246	2556	3412	2534
1952 Federal Surplus/Deficit	1978	-226	79	1201	524	908	3191	1070	470	3713	4460	4911	3470	1780	1882
1953 Federal Surplus/Deficit	959	-398	-289	-23	-468	-921	-510	2185	765	-650	1763	3994	4853	3623	1160
1954 Federal Surplus/Deficit	1158	-267	120	234	-14	477	1269	2926	1108	2206	2445	4311	4130	3941	1763
1955 Federal Surplus/Deficit	3321	2797	1906	254	553	396	-660	-766	42	-230	1096	2275	4678	3950	1354
1956 Federal Surplus/Deficit	2329	815	-93	406	1092	2307	4470	1812	3446	3471	4521	4463	4287	3509	2613
1957 Federal Surplus/Deficit	1258	188	196	408	-462	297	300	68	2168	2768	2940	5225	4632	1049	1461
1958 Federal Surplus/Deficit	169	-809	14	-23	-169	-527	141	1887	1415	1678	3515	5218	4052	964	1260
1959 Federal Surplus/Deficit	168	-449	-104	190	328	1556	4195	2297	894	3133	2574	3692	4049	1584	1778
1960 Federal Surplus/Deficit	1510	64	2145	2120	2301	1846	2247	841	1769	4278	3538	3380	3475	1709	2212
1961 Federal Surplus/Deficit	550	-676	172	77	-366	-466	1576	1028	2294	3137	1614	4229	4309	1405	1379
1962 Federal Surplus/Deficit	668	-8.9	-243	-291	-150	7	823	915	180	2171	4833	3925	3602	463	1083
1963 Federal Surplus/Deficit	290	-439	-279	630	534	1378	1491	1543	-231	732	1575	3167	3208	2030	1209
1964 Federal Surplus/Deficit	1351	-208	136	-249	-268	-93	-106	761	-289	957	342	3574	4337	3909	1077
1965 Federal Surplus/Deficit	2340	198	770	747	388	2348	4690	3462	2745	2166	4835	4392	3631	1578	2453
1966 Federal Surplus/Deficit	1674	773	298	351	-322	-167	1151	55	-536	3718	2280	3036	2027	2008	1014
1967 Federal Surplus/Deficit	1215	-396	-209	-147	-503	5.6	3407	3205	786	1063	-204	3190	4311	3191	1495
1968 Federal Surplus/Deficit	1854	-51	255	167	-360	-9	1863	1820	1596	-557	858	2127	3176	2846	1208
1969 Federal Surplus/Deficit	1756	627	1302	796	1218	960	4349	2295	1630	4091	4455	4673	3143	2688	2374
1970 Federal Surplus/Deficit	667	-743	-64	273	-132	-604	-534	1517	1238	963	1201	2990	4129	1322	921
1971 Federal Surplus/Deficit	107	-814	-280	-62	-230	-240	3604	4044	3060	3336	3846	4754	4588	4352	2223
1972 Federal Surplus/Deficit	2611	1044	415	386	-160	204	3502	3467	4825	4389	3087	4758	4133	3934	2582
1973 Federal Surplus/Deficit	3115	1948	556	248	-210	543	130	-285	-61	-1425	324	1651	-62	172	397
1974 Federal Surplus/Deficit	-574	-1111	-380	-118	-817	1527	4722	4685	4391	4225	4726	4431	4161	4106	2517
1975 Federal Surplus/Deficit	2172	1136	224	-315	-368	-617	777	800	2168	-65	1489	4213	4811	4371	1542
1976 Federal Surplus/Deficit	775	227	556	920	1337	3335	4453	2250	2112	4046	4070	4660	3394	3690	2611
1977 Federal Surplus/Deficit	3297	3291	2772	275	-224	-879	-324	-769	-223	-1406	-1459	-801	-1552	-364	-12
1978 Federal Surplus/Deficit	330	-263	150	-727	-836	331	563	362	1215	3256	2314	3837	2191	1966	992
1979 Federal Surplus/Deficit	643	-220	1358	424	-110	-648	-421	19	1956	834	1044	3740	32	-129	618
1980 Federal Surplus/Deficit	-690	-1011	-408	-68	-136	22	-661	-991	-70	516	3086	4918	3052	782	624
1981 Federal Surplus/Deficit	-39	-796	119	16	-15	2003	3692	323	1399	-452	1405	2690	4773	3287	1540
1982 Federal Surplus/Deficit	2587	1572	121	116	140	70	1988	3991	4034	3172	2945	4600	4359	2641	2254
1983 Federal Surplus/Deficit	2474	741	1206	921	336	544	2734	1354	4429	2790	3287	4021	2933	3700	2243
1984 Federal Surplus/Deficit	2375	742	541	250	1736	166	3705	270	3872	3793	4093	3171	4051	3148	2210
1985 Federal Surplus/Deficit	1436	-445	452	168	324	-30	547	-261	756	2940	3402	4043	825	-377	845
1986 Federal Surplus/Deficit	-1054	-1231	-185	174	856	-790	1507	2295	4714	4023	3357	2581	2301	1395	1440
1987 Federal Surplus/Deficit	784	-638	-341	-252	207	-559	-394	-1324	608	1262	1310	2198	1734	221	295
1988 Federal Surplus/Deficit	-473	-1098	-507	-236	-327	-744	-1319	-1147	-465	-657	844	1000	-1063	635	-400
1989 Federal Surplus/Deficit	330	-478	-142	-425	-662	-592	-791	-733	709	3017	3870	3514	1312	-35	463
1990 Federal Surplus/Deficit	-957	-995	-270	-125	-80	750	2195	1361	1063	2916	4506	3015	3661	1286	1293
1991 Federal Surplus/Deficit	1087	62	-375	-395	1127	985	3204	3010	277	2267	2139	4121	2731	3656	1752
1992 Federal Surplus/Deficit	2358	597	-153	-206	-539	-729	-923	-590	645	-216	566	1114	-257	-64	0.3

Table A-30: Federal Surplus/Deficit - By Water Year
 PNW Loads and Resource Study
 2014 - 2015 Operating Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Federal Surplus/Deficit</i>	-816	-936	-613	-201	-361	-634	-1001	-943	30	283	-3.9	3324	451	801	19
<i>1994 Federal Surplus/Deficit</i>	470	-256	-645	-229	40	-323	-903	-555	-280	-714	2127	1520	103	260	-14
<i>1995 Federal Surplus/Deficit</i>	-611	-994	-499	-301	-625	-504	-345	1487	2608	2113	888	3095	2310	1794	805
<i>1996 Federal Surplus/Deficit</i>	398	-436	45	476	2271	4293	4621	4493	4409	3351	4997	4607	4168	3948	3116
<i>1997 Federal Surplus/Deficit</i>	2280	131	138	142	-235	892	4727	4513	4355	3386	4802	4438	4276	4005	2701
<i>1998 Federal Surplus/Deficit</i>	2117	655	1302	2149	772	-100	1640	1186	1564	1242	1429	3424	4914	1848	1785
-Ranked Averages-															
Top Ten Percent	1720	453	266	517	949	2509	4390	3530	3453	3894	4321	4388	3586	3362	2675
Middle Eighty Percent	888	-115	205	153	-21	117	1131	913	1351	1770	2549	3518	2967	1834	1226
Bottom Ten Percent	193	-736	-242	-134	-291	-715	-1053	-1132	-453	-880	-375	641	-116	80	-355

Table A-30: Federal Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	943	-766	-77	-252	-432	-926	-932	-1075	-429	-963	352	279	1444	349	-190
1930 Federal Surplus/Deficit	-170	-1002	-204	-20	-349	-846	-1076	-1098	-402	-678	1275	-25	186	178	-329
1931 Federal Surplus/Deficit	-653	-871	-367	-175	-189	-777	-1161	-974	-630	-71	-1246	674	59	439	-375
1932 Federal Surplus/Deficit	320	-566	93	-575	-765	-914	-1693	-1660	199	1433	4022	5337	4410	1064	676
1933 Federal Surplus/Deficit	-204	-342	195	-26	-831	-64	2327	1083	-326	1261	1792	3507	4258	3711	1258
1934 Federal Surplus/Deficit	2228	988	463	427	1253	3964	4306	4194	2698	4267	4290	3846	2954	1132	2587
1935 Federal Surplus/Deficit	-543	-944	-46	-185	-1094	-719	1763	2311	-551	230	1563	3247	1978	1988	731
1936 Federal Surplus/Deficit	1479	-558	-321	-154	-492	-912	-1986	-823	-333	-168	3315	4061	3816	699	463
1937 Federal Surplus/Deficit	270	-578	-456	-72	-104	-936	-1011	-1226	-805	-1688	-1304	1231	308	-182	-405
1938 Federal Surplus/Deficit	434	-396	-86	-104	-610	-197	1833	184	1469	2335	4338	4775	3238	1536	1285
1939 Federal Surplus/Deficit	-243	-889	260	23	-490	-1086	-727	-1084	-55	591	2908	4153	1315	319	320
1940 Federal Surplus/Deficit	-604	-1099	-488	69	-93	47	-1166	-714	1886	2270	2957	2788	2362	-496	496
1941 Federal Surplus/Deficit	-831	-1094	-116	-124	-195	-469	-665	-1109	172	-341	324	1016	397	274	-146
1942 Federal Surplus/Deficit	78	-441	474	-529	-239	224	39	312	-448	-193	1889	2735	3835	2546	799
1943 Federal Surplus/Deficit	1501	138	77	-34	-822	-568	1210	1659	2021	4491	4579	4667	4264	2379	1678
1944 Federal Surplus/Deficit	890	-732	-813	-145	-406	-942	-678	-996	-363	-938	-591	57	-397	-382	-477
1945 Federal Surplus/Deficit	43	-613	225	-528	-763	-1090	-1461	-1567	-650	-1435	-1937	3090	2631	110	-161
1946 Federal Surplus/Deficit	-24	-803	-356	-380	-143	4.4	568	-322	2488	3043	4668	4623	3224	2322	1293
1947 Federal Surplus/Deficit	943	-390	160	-221	-188	2022	2299	2206	2827	2285	2691	4407	4044	2502	1901
1948 Federal Surplus/Deficit	693	-645	11	1549	1464	727	3454	185	1309	1384	3702	5406	4044	3588	2034
1949 Federal Surplus/Deficit	2034	1018	363	162	-368	-249	-733	281	2877	2700	4329	5158	3773	-80	1351
1950 Federal Surplus/Deficit	-393	-1214	-729	-145	-608	-438	1349	2298	3672	3289	3234	4201	3790	2877	1556
1951 Federal Surplus/Deficit	1250	232	167	699	904	2339	4424	3910	2115	4156	4289	4550	3220	3510	2563
1952 Federal Surplus/Deficit	1894	-311	-4.7	1119	435	813	3105	1034	365	3616	4363	5215	4133	1878	1905
1953 Federal Surplus/Deficit	875	-483	-373	-104	-557	-1016	-596	2149	661	-747	1666	4298	4719	3721	1123
1954 Federal Surplus/Deficit	1074	-352	36	153	-103	382	1183	2890	1003	2109	2348	4615	3910	3642	1685
1955 Federal Surplus/Deficit	3237	2712	1822	173	464	301	-745	-802	-63	-327	999	2579	4463	3735	1275
1956 Federal Surplus/Deficit	2245	731	-177	325	1003	2213	4385	1776	3341	3374	4299	4767	3939	3607	2548
1957 Federal Surplus/Deficit	1174	103	112	327	-551	203	214	32	2063	2671	2843	5529	4320	1147	1402
1958 Federal Surplus/Deficit	85	-894	-70	-104	-258	-622	55	1851	1311	1581	3418	5522	4621	1062	1279
1959 Federal Surplus/Deficit	84	-534	-188	108	239	1461	4110	2261	789	3036	2478	3995	4070	1682	1752
1960 Federal Surplus/Deficit	1427	-21	2061	2038	2212	1751	2161	805	1665	4181	3441	3684	4138	1806	2233
1961 Federal Surplus/Deficit	466	-761	89	-4.5	-455	-561	1490	992	2190	3040	1518	4533	4045	1503	1327
1962 Federal Surplus/Deficit	584	-94	-327	-373	-239	-87	738	879	76	2074	4736	4228	4266	561	1107
1963 Federal Surplus/Deficit	206	-524	-363	549	445	1283	1406	1507	-336	635	1478	3470	3871	2127	1236
1964 Federal Surplus/Deficit	1267	-293	52	-330	-358	-188	-191	725	-393	860	246	3877	4151	4007	1031
1965 Federal Surplus/Deficit	2256	113	686	665	299	2254	4605	3426	2641	2069	4671	4695	4294	1676	2478
1966 Federal Surplus/Deficit	1590	688	214	270	-411	-261	1066	19	-641	3621	2183	3340	2690	2106	1037
1967 Federal Surplus/Deficit	1131	-481	-293	-228	-592	-89	3321	3169	681	966	-301	3493	3966	3289	1443
1968 Federal Surplus/Deficit	1770	-136	171	86	-449	-103	1777	1783	1491	-654	761	2430	3840	2944	1235
1969 Federal Surplus/Deficit	1672	542	1218	715	1129	865	4264	2259	1526	3994	4358	4977	3806	2786	2399
1970 Federal Surplus/Deficit	583	-828	-148	191	-221	-782	-542	1497	1133	866	1105	3294	4792	1420	949
1971 Federal Surplus/Deficit	23	-899	-364	-143	-320	-334	3518	4008	2956	3239	3749	5058	4235	4070	2137
1972 Federal Surplus/Deficit	2527	959	331	305	-249	109	3416	3431	4720	4015	2991	5062	4070	3730	2513
1973 Federal Surplus/Deficit	3031	1863	472	167	-300	448	45	-380	-160	-1519	235	2005	602	270	421
1974 Federal Surplus/Deficit	-658	-1196	-464	-200	-907	1432	4579	4565	4287	4128	4462	4734	4084	3808	2435
1975 Federal Surplus/Deficit	2088	1051	140	-397	-457	-712	692	764	2063	-162	1392	4516	4459	4079	1449
1976 Federal Surplus/Deficit	691	142	473	838	1247	3241	4368	2214	2007	3949	3973	4964	4058	3788	2635
1977 Federal Surplus/Deficit	3213	3206	2688	194	-313	-974	-450	-800	-322	-1499	-1498	-498	-889	-266	11
1978 Federal Surplus/Deficit	246	-348	66	-997	-927	442	478	326	1110	3159	2218	4140	2855	2064	1017
1979 Federal Surplus/Deficit	559	-305	1274	343	-200	-856	-543	181	1851	737	947	4044	695	-31	645
1980 Federal Surplus/Deficit	-774	-1096	-492	-149	-225	-73	-787	-981	-174	419	2990	5222	3715	880	645
1981 Federal Surplus/Deficit	-123	-881	35	-65	-105	1908	3606	287	1294	-549	1309	2993	4529	3385	1487
1982 Federal Surplus/Deficit	2503	1487	37	35	51	-25	1903	3955	3929	3075	2848	4903	4022	2738	2202
1983 Federal Surplus/Deficit	2390	656	1122	839	246	449	2648	1317	4324	2693	3190	4324	3596	3798	2266
1984 Federal Surplus/Deficit	2291	657	458	168	1647	71	3620	234	3767	3696	3997	3475	4715	3246	2230
1985 Federal Surplus/Deficit	1352	-530	368	87	235	-125	461	-355	708	2843	3305	4347	1489	-279	868
1986 Federal Surplus/Deficit	-1138	-1316	-269	93	767	-884	1421	2259	4609	3926	3260	2885	2964	1493	1467
1987 Federal Surplus/Deficit	700	-723	-425	-333	118	-653	-520	-1311	504	1165	1214	2502	2397	319	316
1988 Federal Surplus/Deficit	-557	-1183	-591	-317	-416	-1024	-1385	-1163	-549	-735	777	1479	-399	733	-370
1989 Federal Surplus/Deficit	246	-563	-226	-507	-751	-687	-917	-765	647	2920	3773	3818	1975	63	486
1990 Federal Surplus/Deficit	-1041	-1080	-354	-207	-169	656	2110	1325	959	2819	4409	3318	4325	1384	1319
1991 Federal Surplus/Deficit	1003	-23	-459	-476	1038	891	3118	2973	172	2170	2042	4425	3394	3754	1781
1992 Federal Surplus/Deficit	2274	513	-237	-288	-629	-1012	-986	-678	819	-313	470	1418	406	34	29

Table A-30: Federal Surplus/Deficit - By Water Year
 PNW Loads and Resource Study
 2015 - 2016 Operating Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Federal Surplus/Deficit</i>	-900	-1021	-697	-283	-450	-904	-1064	-955	-56	203	223	3628	1114	899	46
<i>1994 Federal Surplus/Deficit</i>	386	-341	-728	-310	-49	-417	-989	-591	-385	-811	2030	1824	766	358	10.0
<i>1995 Federal Surplus/Deficit</i>	-694	-1079	-583	-382	-714	-598	-431	1451	2503	2016	791	3399	2974	1892	832
<i>1996 Federal Surplus/Deficit</i>	315	-521	-39	395	2181	3930	4496	4346	4305	3254	4699	4911	4752	4045	3096
<i>1997 Federal Surplus/Deficit</i>	2196	47	54	60	-324	797	4600	4539	4251	3289	4564	4741	4293	4055	2670
<i>1998 Federal Surplus/Deficit</i>	2033	570	1218	2067	683	-195	1554	1150	1459	1145	1333	3728	4756	1946	1741
-Ranked Averages-															
Top Ten Percent	1636	368	182	436	859	2370	4285	3487	3348	3758	4158	4691	3898	3410	2659
Middle Eighty Percent	804	-200	121	68	-110	15	1042	880	1254	1673	2452	3823	3322	1897	1222
Bottom Ten Percent	109	-821	-326	-216	-380	-935	-1100	-1157	-547	-930	-382	969	547	178	-330

Table A-30: Federal Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	872	-871	-165	-353	-567	-908	-1272	-1334	-601	-1126	245	-297	581	86	-437
1930 Federal Surplus/Deficit	-241	-1107	-292	-121	-484	-785	-1278	-1373	-594	-860	821	-601	-677	-85	-579
1931 Federal Surplus/Deficit	-724	-976	-455	-276	-323	-757	-1357	-1251	-818	-251	-1604	97	-803	176	-624
1932 Federal Surplus/Deficit	250	-671	4.6	-676	-900	-1041	-1872	-1919	28	1270	3915	4761	4233	801	491
1933 Federal Surplus/Deficit	-274	-447	107	-127	-965	-191	2148	824	-498	1097	1685	2930	4410	3531	1100
1934 Federal Surplus/Deficit	2158	883	375	326	1119	3874	4185	3934	2526	4104	4182	3269	2092	869	2342
1935 Federal Surplus/Deficit	-614	-1049	-134	-286	-1228	-846	1584	2052	-723	67	1455	2670	1116	1725	479
1936 Federal Surplus/Deficit	1408	-663	-409	-256	-627	-1002	-2168	-1128	-505	-331	3207	3484	2954	436	217
1937 Federal Surplus/Deficit	199	-683	-544	-174	-238	-875	-1215	-1508	-999	-2130	-1412	654	-555	-445	-652
1938 Federal Surplus/Deficit	363	-501	-174	-205	-744	-324	1654	-75	1298	2172	4230	4198	2375	1273	1040
1939 Federal Surplus/Deficit	-314	-994	172	-78	-624	-1214	-866	-1347	-271	427	2801	3577	453	56	75
1940 Federal Surplus/Deficit	-675	-1203	-576	-32	-227	-80	-1345	-973	1714	2106	2850	2212	1500	-760	251
1941 Federal Surplus/Deficit	-902	-1199	-204	-225	-329	-597	-844	-1368	0.1	-504	217	439	-466	11	-392
1942 Federal Surplus/Deficit	7.1	-546	386	-631	-374	96	-140	53	-620	-356	1782	2158	2973	2283	552
1943 Federal Surplus/Deficit	1431	33	-11	-135	-956	-695	1030	1399	1849	4328	4665	4091	4414	2116	1521
1944 Federal Surplus/Deficit	819	-837	-901	-247	-540	-1052	-876	-1255	-534	-1101	-698	-520	-1259	-646	-724
1945 Federal Surplus/Deficit	-28	-718	137	-629	-897	-1217	-1640	-1826	-821	-1598	-2045	2513	1769	-153	-405
1946 Federal Surplus/Deficit	-95	-908	-444	-481	-277	-123	389	-581	2316	2880	4560	4046	2362	2059	1049
1947 Federal Surplus/Deficit	872	-495	72	-323	-323	1895	2120	1947	2655	2122	2584	3830	3182	2239	1652
1948 Federal Surplus/Deficit	623	-750	-77	1448	1330	599	3275	-74	1137	1220	3595	4829	4186	3324	1873
1949 Federal Surplus/Deficit	1963	913	275	61	-503	-377	-871	-28	2705	2537	4222	4581	2911	-343	1105
1950 Federal Surplus/Deficit	-463	-1319	-817	-246	-743	-565	1170	2039	3500	3126	3127	3624	3939	2613	1389
1951 Federal Surplus/Deficit	1179	127	79	598	769	2212	4244	3651	1944	3993	4182	3973	2357	3246	2311
1952 Federal Surplus/Deficit	1823	-416	-93	1018	301	686	2926	774	194	3453	4255	4638	3271	1615	1660
1953 Federal Surplus/Deficit	804	-588	-461	-206	-692	-1143	-775	1890	489	-910	1558	3721	4654	3458	937
1954 Federal Surplus/Deficit	1003	-456	-52	52	-237	255	1004	2631	832	1946	2240	4038	3931	3775	1540
1955 Federal Surplus/Deficit	3166	2607	1734	71	330	174	-924	-1061	-235	-490	892	2002	4479	3784	1131
1956 Federal Surplus/Deficit	2174	626	-265	224	869	2086	4206	1517	3170	3211	4316	4190	4088	3344	2390
1957 Federal Surplus/Deficit	1103	-1.9	24	225	-685	75	35	-227	1892	2507	2736	4952	4433	883	1238
1958 Federal Surplus/Deficit	14	-999	-158	-206	-392	-749	-124	1591	1139	1418	3311	4945	3853	799	1037
1959 Federal Surplus/Deficit	13	-639	-276	7	104	1334	3930	2001	618	2873	2370	3419	3850	1418	1555
1960 Federal Surplus/Deficit	1356	-126	1973	1937	2077	1624	1982	546	1493	4018	3334	3107	3276	1543	1989
1961 Federal Surplus/Deficit	395	-866	0.5	-106	-590	-688	1311	733	2018	2876	1410	3956	4111	1240	1156
1962 Federal Surplus/Deficit	513	-199	-415	-474	-374	-215	559	620	-96	1911	4629	3652	3403	297	860
1963 Federal Surplus/Deficit	135	-629	-451	447	311	1156	1227	1247	-508	472	1371	2894	3009	1864	987
1964 Federal Surplus/Deficit	1196	-397	-36	-432	-492	-315	-370	465	-565	697	138	3301	4139	3744	854
1965 Federal Surplus/Deficit	2185	8.4	598	564	165	2127	4426	3167	2469	1906	4630	4119	3432	1412	2230
1966 Federal Surplus/Deficit	1520	584	126	168	-546	-389	886	-240	-813	3458	2076	2763	1828	1842	791
1967 Federal Surplus/Deficit	1060	-586	-381	-330	-727	-216	3142	2910	509	803	-409	2917	4112	3025	1272
1968 Federal Surplus/Deficit	1699	-241	83	-15	-584	-231	1598	1524	1319	-818	654	1854	2977	2681	985
1969 Federal Surplus/Deficit	1601	437	1130	614	994	738	4085	1999	1354	3831	4251	4400	2944	2523	2152
1970 Federal Surplus/Deficit	512	-933	-236	90	-355	-825	-799	1221	962	703	997	2717	3930	1157	698
1971 Federal Surplus/Deficit	-47	-1004	-452	-245	-454	-462	3339	3748	2784	3076	3642	4481	4389	4187	2000
1972 Federal Surplus/Deficit	2456	854	243	204	-383	-18	3237	3172	4548	4129	2883	4485	3934	3769	2359
1973 Federal Surplus/Deficit	2960	1758	384	65	-434	321	-135	-581	-337	-1686	119	1378	-261	6.9	175
1974 Federal Surplus/Deficit	-728	-1301	-552	-301	-1041	1305	4458	4389	4115	3965	4522	4158	3962	3940	2294
1975 Federal Surplus/Deficit	2018	946	52	-498	-592	-839	513	504	1891	-325	1285	3940	4612	4206	1319
1976 Federal Surplus/Deficit	620	37	385	737	1113	3113	4189	1955	1835	3786	3865	4387	3196	3525	2388
1977 Federal Surplus/Deficit	3142	3101	2600	92	-448	-1101	-589	-1064	-500	-1666	-1663	-1074	-1751	-530	-235
1978 Federal Surplus/Deficit	175	-453	-22	-910	-1060	109	299	67	938	2995	2110	3564	1993	1800	770
1979 Federal Surplus/Deficit	488	-410	1186	241	-334	-870	-686	-277	1680	573	840	3467	-167	-294	395
1980 Federal Surplus/Deficit	-845	-1201	-580	-251	-359	-200	-925	-1287	-346	255	2882	4645	2853	616	401
1981 Federal Surplus/Deficit	-194	-986	-53	-167	-239	1781	3427	27	1123	-712	1201	2417	4574	3122	1317
1982 Federal Surplus/Deficit	2433	1382	-51	-67	-84	-152	1724	3695	3758	2911	2741	4327	4160	2475	2031
1983 Federal Surplus/Deficit	2320	551	1034	738	112	322	2469	1058	4153	2530	3083	3748	2734	3534	2021
1984 Federal Surplus/Deficit	2220	552	369	67	1512	-56	3441	-25	3596	3533	3889	2898	3852	2982	1988
1985 Federal Surplus/Deficit	1281	-635	280	-14	100	-252	282	-556	480	2680	3197	3770	626	-543	623
1986 Federal Surplus/Deficit	-1208	-1421	-357	-8.4	632	-1012	1242	1999	4437	3762	3152	2308	2102	1230	1217
1987 Federal Surplus/Deficit	629	-828	-513	-435	-17	-780	-659	-1620	332	1002	1106	1925	1535	56	72
1988 Federal Surplus/Deficit	-628	-1288	-679	-419	-551	-966	-1584	-1442	-741	-917	640	727	-1262	469	-623
1989 Federal Surplus/Deficit	175	-668	-314	-608	-886	-814	-1056	-1029	432	2757	3666	3241	1113	-201	240
1990 Federal Surplus/Deficit	-1112	-1185	-442	-308	-304	528	1930	1065	787	2655	4301	2741	3462	1120	1071
1991 Federal Surplus/Deficit	933	-128	-547	-578	903	763	2939	2714	0.2	2007	1935	3848	2532	3491	1529
1992 Federal Surplus/Deficit	2203	408	-325	-389	-763	-950	-1188	-885	368	-476	362	841	-456	-229	-223

Table A-30: Federal Surplus/Deficit - By Water Year
 PNW Loads and Resource Study
 2016 - 2017 Operating Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Federal Surplus/Deficit</i>	-971	-1126	-785	-384	-584	-856	-1265	-1238	-246	23	-208	3051	252	635	-204
<i>1994 Federal Surplus/Deficit</i>	316	-446	-817	-412	-184	-545	-1168	-850	-557	-974	1923	1247	-96	95	-237
<i>1995 Federal Surplus/Deficit</i>	-765	-1184	-671	-483	-848	-726	-610	1192	2331	1852	684	2822	2111	1628	582
<i>1996 Federal Surplus/Deficit</i>	244	-626	-127	294	2047	4071	4356	4198	4133	3091	4793	4334	3969	3782	2893
<i>1997 Federal Surplus/Deficit</i>	2125	-58	-34	-41	-459	670	4462	4218	4079	3126	4598	4165	4077	3839	2478
<i>1998 Federal Surplus/Deficit</i>	1962	465	1130	1966	548	-322	1375	891	1288	982	1225	3151	4715	1682	1562
-Ranked Averages-															
Top Ten Percent	1565	263	94	334	725	2287	4126	3235	3176	3634	4117	4115	3388	3196	2452
Middle Eighty Percent	733	-304	33	-30	-245	-105	867	617	1074	1510	2345	3245	2768	1668	1003
Bottom Ten Percent	39	-926	-414	-317	-514	-937	-1318	-1427	-730	-1140	-579	368	-315	-85	-578

Table A-30: Federal Surplus/Deficit - By Water Year
PNW Loads and Resource Study
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	732	-1011	-350	-550	-707	-1205	-1228	-1426	-725	-1214	84	46	1153	94	-465
1930 Federal Surplus/Deficit	-381	-1247	-477	-318	-625	-1125	-1371	-1449	-698	-929	1007	-258	-105	-76	-604
1931 Federal Surplus/Deficit	-864	-1116	-641	-473	-464	-1056	-1456	-1325	-926	-322	-1514	441	-232	184	-650
1932 Federal Surplus/Deficit	109	-812	-181	-873	-1041	-1192	-1988	-2011	-96	1182	3754	5104	4120	809	405
1933 Federal Surplus/Deficit	-415	-588	-79	-324	-1106	-342	2032	732	-622	1010	1524	3273	3967	3456	981
1934 Federal Surplus/Deficit	2017	743	189	129	978	3685	4011	3843	2402	4016	4022	3612	2663	877	2305
1935 Federal Surplus/Deficit	-754	-1189	-319	-483	-1369	-997	1467	1960	-847	-21	1295	3014	1687	1733	450
1936 Federal Surplus/Deficit	1268	-803	-595	-452	-767	-1190	-2281	-1174	-629	-419	3046	3828	3526	444	189
1937 Federal Surplus/Deficit	59	-823	-730	-370	-379	-1214	-1307	-1577	-1101	-1939	-1572	998	17	-436	-680
1938 Federal Surplus/Deficit	223	-641	-360	-402	-885	-475	1538	-167	1173	2084	4069	4541	2947	1281	1011
1939 Federal Surplus/Deficit	-454	-1134	-14	-275	-765	-1365	-1023	-1435	-351	339	2640	3920	1025	64	47
1940 Federal Surplus/Deficit	-815	-1344	-762	-229	-368	-231	-1461	-1065	1590	2018	2689	2555	2072	-751	222
1941 Federal Surplus/Deficit	-1042	-1339	-390	-422	-470	-748	-960	-1460	-124	-592	56	782	106	19	-421
1942 Federal Surplus/Deficit	-133	-686	200	-828	-515	-55	-257	-39	-744	-444	1621	2501	3544	2292	522
1943 Federal Surplus/Deficit	1290	-107	-197	-332	-1097	-846	914	1308	1725	4240	4311	4434	3973	2124	1401
1944 Federal Surplus/Deficit	679	-977	-1087	-444	-681	-1221	-974	-1347	-659	-1189	-859	-177	-687	-637	-753
1945 Federal Surplus/Deficit	-168	-859	-49	-826	-1038	-1368	-1757	-1918	-945	-1686	-2205	2857	2341	-144	-434
1946 Federal Surplus/Deficit	-235	-1048	-630	-678	-418	-274	273	-673	2192	2792	4399	4390	2934	2067	1020
1947 Federal Surplus/Deficit	732	-635	-114	-519	-464	1744	2003	1855	2531	2034	2423	4173	3754	2247	1623
1948 Federal Surplus/Deficit	482	-890	-263	1251	1189	448	3158	-166	1013	1133	3434	5172	3753	3333	1761
1949 Federal Surplus/Deficit	1823	773	89	-136	-644	-528	-1028	-70	2581	2449	4061	4924	3483	-335	1077
1950 Federal Surplus/Deficit	-604	-1459	-1003	-443	-884	-716	1053	1947	3376	3038	2966	3968	3500	2622	1277
1951 Federal Surplus/Deficit	1039	-13	-107	401	629	2061	4128	3559	1820	3905	4021	4317	2929	3255	2282
1952 Federal Surplus/Deficit	1683	-556	-279	821	160	535	2810	683	69	3365	4095	4982	3843	1623	1630
1953 Federal Surplus/Deficit	664	-728	-647	-402	-832	-1294	-892	1798	365	-998	1398	4064	4428	3466	843
1954 Federal Surplus/Deficit	863	-597	-238	-145	-378	104	888	2539	707	1858	2080	4382	3620	3387	1404
1955 Federal Surplus/Deficit	3026	2467	1548	-125	189	23	-1041	-1153	-359	-578	731	2345	4173	3480	1003
1956 Federal Surplus/Deficit	2034	485	-451	27	728	1935	4089	1425	3045	3123	4031	4534	3648	3352	2273
1957 Federal Surplus/Deficit	963	-142	-162	29	-826	-76	-82	-319	1767	2420	2575	5296	4030	892	1128
1958 Federal Surplus/Deficit	-126	-1140	-344	-402	-533	-900	-241	1500	1015	1330	3150	5288	4330	807	1000
1959 Federal Surplus/Deficit	-127	-779	-462	-190	-37	1183	3814	1910	493	2785	2209	3762	3779	1427	1473
1960 Federal Surplus/Deficit	1216	-266	1787	1740	1937	1473	1866	454	1369	3930	3173	3451	3848	1552	1960
1961 Federal Surplus/Deficit	255	-1006	-185	-303	-730	-839	1195	641	1894	2789	1250	4299	3755	1248	1051
1962 Federal Surplus/Deficit	373	-339	-601	-671	-515	-366	442	528	-220	1823	4468	3995	3975	306	831
1963 Federal Surplus/Deficit	-5.0	-769	-637	251	170	1005	1110	1156	-632	384	1210	3237	3581	1873	957
1964 Federal Surplus/Deficit	1056	-538	-222	-628	-633	-466	-487	374	-689	609	-23	3644	3861	3752	755
1965 Federal Surplus/Deficit	2045	-132	413	367	24	1976	4309	3075	2345	1818	4403	4462	4003	1421	2198
1966 Federal Surplus/Deficit	1379	443	-60	-29	-687	-540	770	-332	-937	3370	1915	3107	2400	1851	762
1967 Federal Surplus/Deficit	920	-726	-567	-527	-868	-367	3026	2818	385	715	-569	3260	3675	3034	1160
1968 Federal Surplus/Deficit	1559	-382	-102	-212	-725	-382	1481	1432	1195	-905	493	2197	3549	2689	956
1969 Federal Surplus/Deficit	1461	296	944	417	853	587	3968	1908	1230	3743	4090	4743	3516	2531	2122
1970 Federal Surplus/Deficit	372	-1073	-422	-107	-496	-1060	-837	1146	838	615	837	3060	4502	1165	670
1971 Federal Surplus/Deficit	-188	-1144	-637	-441	-595	-613	3223	3657	2660	2988	3481	4824	3945	3816	1855
1972 Federal Surplus/Deficit	2316	714	58	6.9	-524	-169	3121	3080	4424	3763	2722	4828	3779	3475	2233
1973 Federal Surplus/Deficit	2820	1618	198	-132	-575	170	-251	-731	-456	-1770	-33	1771	311	15	146
1974 Federal Surplus/Deficit	-869	-1442	-737	-498	-1182	1154	4283	4214	3991	3877	4194	4501	3794	3553	2152
1975 Federal Surplus/Deficit	1877	806	-134	-695	-733	-990	396	413	1767	-413	1124	4283	4168	3824	1174
1976 Federal Surplus/Deficit	480	-103	199	540	972	2962	4072	1863	1711	3698	3705	4730	3767	3533	2359
1977 Federal Surplus/Deficit	3002	2960	2414	-104	-589	-1252	-746	-1151	-618	-1750	-1766	-731	-1179	-521	-264
1978 Federal Surplus/Deficit	35	-593	-208	-1295	-1202	163	182	-25	814	2908	1949	3907	2564	1809	742
1979 Federal Surplus/Deficit	348	-550	1000	45	-475	-1135	-838	-170	1556	486	679	3811	405	-286	369
1980 Federal Surplus/Deficit	-985	-1341	-766	-447	-500	-351	-1082	-1332	-470	168	2721	4989	3424	625	372
1981 Federal Surplus/Deficit	-334	-1126	-239	-363	-380	1630	3311	-64	998	-800	1041	2760	4239	3130	1213
1982 Federal Surplus/Deficit	2292	1242	-237	-263	-225	-303	1607	3604	3633	2824	2580	4670	3731	2484	1920
1983 Federal Surplus/Deficit	2179	411	848	541	-29	171	2353	966	4028	2442	2922	4091	3306	3543	1991
1984 Federal Surplus/Deficit	2080	412	184	-130	1371	-207	3324	-117	3471	3445	3729	3242	4424	2991	1958
1985 Federal Surplus/Deficit	1141	-775	94	-211	-40	-403	166	-706	412	2592	3037	4114	1198	-534	594
1986 Federal Surplus/Deficit	-1348	-1561	-543	-205	491	-1163	1126	1908	4313	3675	2992	2652	2674	1238	1188
1987 Federal Surplus/Deficit	489	-968	-699	-631	-158	-931	-816	-1662	208	914	946	2268	2107	64	43
1988 Federal Surplus/Deficit	-768	-1428	-865	-616	-692	-1303	-1681	-1514	-845	-986	508	1246	-690	478	-646
1989 Federal Surplus/Deficit	35	-808	-500	-805	-1026	-965	-1213	-1116	351	2669	3505	3585	1685	-192	212
1990 Federal Surplus/Deficit	-1252	-1326	-628	-505	-445	377	1814	974	663	2568	4141	3085	4034	1129	1041
1991 Federal Surplus/Deficit	792	-268	-733	-774	763	612	2822	2623	-124	1919	1774	4191	3104	3499	1500
1992 Federal Surplus/Deficit	2063	267	-511	-586	-904	-1290	-1282	-1029	523	-564	201	1185	116	-221	-246

Table A-30: Federal Surplus/Deficit - By Water Year
 PNW Loads and Resource Study
 2017 - 2018 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Federal Surplus/Deficit</i>	-1111	-1266	-971	-581	-725	-1182	-1360	-1306	-352	-48	-45	3395	824	644	-229
<i>1994 Federal Surplus/Deficit</i>	175	-586	-1002	-608	-324	-696	-1285	-942	-681	-1062	1762	1591	476	103	-266
<i>1995 Federal Surplus/Deficit</i>	-905	-1324	-857	-680	-989	-877	-727	1100	2207	1765	523	3165	2683	1637	553
<i>1996 Federal Surplus/Deficit</i>	104	-766	-313	97	1906	3652	4200	3995	4009	3003	4431	4677	4461	3790	2815
<i>1997 Federal Surplus/Deficit</i>	1985	-199	-220	-238	-599	519	4304	4188	3955	3038	4295	4508	4003	3800	2388
<i>1998 Federal Surplus/Deficit</i>	1822	325	944	1769	407	-473	1258	799	1163	894	1064	3495	4466	1691	1465
-Ranked Averages-															
Top Ten Percent	1425	123	-92	138	584	2092	3989	3136	3052	3507	3890	4458	3607	3155	2379
Middle Eighty Percent	593	-445	-153	-230	-386	-263	746	529	958	1422	2184	3589	3031	1642	946
Bottom Ten Percent	-102	-1066	-600	-514	-655	-1213	-1396	-1508	-843	-1181	-650	736	257	-77	-605

Table A-30: Federal Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	623	-1120	-453	-658	-817	-1174	-1504	-1534	-831	-1341	-7.0	-556	316	-85	-683
1930 Federal Surplus/Deficit	-490	-1356	-580	-427	-735	-1051	-1510	-1573	-824	-1074	569	-860	-942	-255	-825
1931 Federal Surplus/Deficit	-972	-1225	-744	-582	-574	-1023	-1588	-1451	-1049	-465	-1855	-161	-1068	5.1	-870
1932 Federal Surplus/Deficit	0.9	-920	-284	-981	-1151	-1308	-2104	-2119	-203	1055	3663	4502	3968	630	245
1933 Federal Surplus/Deficit	-523	-696	-182	-433	-1216	-458	1916	624	-728	883	1433	2672	4145	3361	854
1934 Federal Surplus/Deficit	1909	634	86	20	868	3607	3953	3734	2295	3889	3931	3011	1827	698	2096
1935 Federal Surplus/Deficit	-863	-1298	-422	-592	-1479	-1112	1352	1852	-953	-148	1203	2412	851	1554	233
1936 Federal Surplus/Deficit	1159	-912	-698	-561	-877	-1268	-2400	-1328	-736	-545	2955	3226	2689	265	-29
1937 Federal Surplus/Deficit	-49	-931	-833	-479	-489	-1141	-1447	-1708	-1230	-2344	-1663	396	-820	-615	-898
1938 Federal Surplus/Deficit	115	-750	-462	-510	-995	-591	1422	-275	1067	1957	3978	3940	2110	1102	794
1939 Federal Surplus/Deficit	-562	-1243	-117	-383	-875	-1480	-1098	-1547	-502	213	2549	3318	188	-115	-171
1940 Federal Surplus/Deficit	-923	-1452	-865	-337	-478	-347	-1577	-1173	1483	1892	2598	1954	1235	-930	4.7
1941 Federal Surplus/Deficit	-1151	-1448	-493	-530	-580	-863	-1075	-1568	-231	-719	-35	181	-731	-160	-638
1942 Federal Surplus/Deficit	-242	-795	98	-936	-625	-170	-372	-147	-850	-571	1530	1900	2708	2113	306
1943 Federal Surplus/Deficit	1182	-216	-300	-441	-1207	-962	799	1200	1618	4113	4413	3832	4149	1945	1275
1944 Federal Surplus/Deficit	571	-1086	-1189	-552	-791	-1319	-1108	-1455	-765	-1315	-950	-778	-1524	-816	-970
1945 Federal Surplus/Deficit	-277	-967	-152	-934	-1148	-1484	-1872	-2026	-1052	-1813	-2297	2255	1504	-323	-651
1946 Federal Surplus/Deficit	-344	-1157	-733	-787	-528	-389	158	-781	2085	2666	4308	3788	2097	1888	803
1947 Federal Surplus/Deficit	623	-744	-217	-628	-574	1628	1888	1747	2424	1907	2332	3572	2917	2068	1406
1948 Federal Surplus/Deficit	374	-999	-366	1142	1079	333	3043	-274	906	1006	3343	4571	3921	3154	1627
1949 Federal Surplus/Deficit	1715	664	-13	-245	-754	-643	-1103	-228	2474	2323	3970	4323	2646	-514	859
1950 Federal Surplus/Deficit	-712	-1567	-1106	-551	-994	-832	938	1839	3269	2911	2875	3366	3674	2443	1143
1951 Federal Surplus/Deficit	930	-121	-209	293	518	1945	4013	3451	1713	3779	3930	3715	2092	3076	2065
1952 Federal Surplus/Deficit	1575	-665	-381	712	50	419	2695	574	-37	3239	4004	4380	3006	1444	1414
1953 Federal Surplus/Deficit	555	-837	-750	-511	-942	-1410	-1007	1690	258	-1125	1307	3463	4389	3287	691
1954 Federal Surplus/Deficit	755	-705	-341	-254	-488	-11	773	2431	601	1732	1988	3780	3666	3604	1294
1955 Federal Surplus/Deficit	2918	2358	1446	-234	79	-93	-1156	-1261	-466	-704	640	1744	4214	3614	885
1956 Federal Surplus/Deficit	1925	377	-554	-82	618	1819	3974	1317	2939	2997	4064	3932	3823	3173	2144
1957 Federal Surplus/Deficit	854	-251	-265	-80	-936	-191	-197	-427	1661	2293	2484	4694	4168	713	992
1958 Federal Surplus/Deficit	-234	-1248	-447	-511	-643	-1015	-356	1392	908	1204	3059	4687	3588	628	791
1959 Federal Surplus/Deficit	-236	-887	-564	-298	-147	1067	3699	1801	387	2658	2118	3160	3585	1248	1309
1960 Federal Surplus/Deficit	1107	-375	1684	1632	1827	1358	1750	346	1262	3804	3082	2849	3011	1373	1743
1961 Federal Surplus/Deficit	146	-1115	-288	-411	-840	-955	1080	533	1787	2662	1158	3698	3846	1069	910
1962 Federal Surplus/Deficit	264	-448	-703	-779	-625	-481	327	420	-327	1696	4377	3394	3138	127	614
1963 Federal Surplus/Deficit	-113	-878	-739	142	60	889	995	1047	-738	258	1119	2635	2744	1694	741
1964 Federal Surplus/Deficit	947	-646	-325	-737	-743	-581	-602	265	-796	482	-114	3042	3873	3573	608
1965 Federal Surplus/Deficit	1937	-240	310	259	-86	1860	4194	2967	2238	1691	4378	3861	3167	1242	1984
1966 Federal Surplus/Deficit	1271	335	-163	-137	-797	-655	655	-440	-1044	3244	1824	2505	1563	1672	545
1967 Federal Surplus/Deficit	812	-835	-670	-635	-978	-483	2910	2710	278	588	-660	2658	3847	2855	1026
1968 Federal Surplus/Deficit	1451	-490	-205	-321	-835	-497	1366	1324	1088	-1032	402	1595	2712	2510	739
1969 Federal Surplus/Deficit	1353	188	841	308	743	472	3853	1799	1123	3617	3999	4142	2679	2352	1906
1970 Federal Surplus/Deficit	263	-1182	-525	-216	-606	-1092	-1031	1021	731	489	745	2459	3665	986	452
1971 Federal Surplus/Deficit	-296	-1253	-740	-550	-705	-728	3107	3548	2553	2862	3390	4223	4124	4016	1754
1972 Federal Surplus/Deficit	2208	605	-45	-102	-634	-285	3005	2972	4317	3915	2631	4227	3669	3598	2113
1973 Federal Surplus/Deficit	2711	1509	95	-240	-685	55	-366	-781	-568	-1900	-133	1120	-526	-164	-71
1974 Federal Surplus/Deficit	-977	-1550	-840	-606	-1292	1039	4226	4189	3884	3751	4270	3899	3697	3770	2048
1975 Federal Surplus/Deficit	1769	697	-236	-803	-843	-1105	281	304	1661	-539	1033	3681	4347	4035	1073
1976 Federal Surplus/Deficit	372	-211	96	432	862	2847	3957	1755	1604	3572	3614	4129	2931	3354	2142
1977 Federal Surplus/Deficit	2894	2852	2312	-213	-699	-1367	-821	-1264	-730	-1880	-1915	-1333	-2016	-700	-481
1978 Federal Surplus/Deficit	-74	-701	-310	-1215	-1310	-157	67	-133	707	2781	1858	3305	1727	1630	524
1979 Federal Surplus/Deficit	239	-659	897	-64	-585	-1137	-918	-477	1449	359	588	3209	-432	-465	149
1980 Federal Surplus/Deficit	-1093	-1450	-869	-556	-610	-467	-1157	-1487	-577	41	2630	4387	2588	446	155
1981 Federal Surplus/Deficit	-443	-1235	-342	-472	-490	1515	3196	-173	892	-926	949	2158	4309	2951	1071
1982 Federal Surplus/Deficit	2184	1134	-340	-372	-335	-418	1492	3495	3527	2697	2489	4068	3895	2305	1785
1983 Federal Surplus/Deficit	2071	302	745	432	-139	55	2238	858	3922	2315	2831	3489	2469	3364	1775
1984 Federal Surplus/Deficit	1971	303	81	-238	1261	-322	3209	-225	3365	3318	3637	2640	3587	2812	1742
1985 Federal Surplus/Deficit	1033	-884	-8.9	-320	-150	-518	50	-756	249	2465	2945	3512	361	-713	377
1986 Federal Surplus/Deficit	-1457	-1670	-646	-314	381	-1278	1010	1799	4207	3548	2900	2050	1837	1059	971
1987 Federal Surplus/Deficit	381	-1077	-801	-740	-268	-1047	-891	-1820	101	788	854	1667	1270	-115	-174
1988 Federal Surplus/Deficit	-877	-1537	-968	-724	-802	-1232	-1816	-1642	-972	-1131	388	469	-1527	299	-869
1989 Federal Surplus/Deficit	-73	-917	-602	-913	-1136	-1080	-1288	-1228	202	2543	3414	2983	848	-371	-5.7
1990 Federal Surplus/Deficit	-1361	-1434	-730	-614	-555	262	1699	866	556	2441	4050	2483	3197	950	825
1991 Federal Surplus/Deficit	684	-377	-835	-883	653	497	2707	2514	-231	1792	1683	3590	2267	3320	1283
1992 Federal Surplus/Deficit	1954	159	-614	-694	-1014	-1217	-1420	-1085	137	-690	110	583	-721	-400	-469

Table A-30: Federal Surplus/Deficit - By Water Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Federal Surplus/Deficit</i>	-1219	-1375	-1073	-690	-835	-1122	-1497	-1438	-477	-191	-460	2793	-13	465	-450
<i>1994 Federal Surplus/Deficit</i>	67	-695	-1105	-717	-434	-811	-1400	-1050	-788	-1189	1671	989	-361	-76	-483
<i>1995 Federal Surplus/Deficit</i>	-1014	-1433	-960	-789	-1099	-992	-842	992	2100	1638	432	2564	1846	1458	336
<i>1996 Federal Surplus/Deficit</i>	-4.9	-875	-416	-12	1796	3804	4124	3998	3902	2876	4541	4076	3704	3611	2647
<i>1997 Federal Surplus/Deficit</i>	1876	-307	-323	-346	-709	403	4230	4018	3848	2912	4346	3906	3812	3669	2232
<i>1998 Federal Surplus/Deficit</i>	1714	216	841	1661	297	-588	1143	691	1057	768	973	2893	4450	1512	1316
-Ranked Averages-															
Top Ten Percent	1316	14	-195	29	474	2020	3894	3035	2946	3420	3865	3857	3123	3026	2206
Middle Eighty Percent	485	-553	-256	-335	-496	-371	635	417	844	1295	2093	2987	2503	1498	757
Bottom Ten Percent	-210	-1175	-703	-622	-765	-1204	-1549	-1627	-960	-1355	-831	109	-580	-256	-824

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Section 6
Monthly Regional Tables
Loads & Resources
Average Energy in Megawatts

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Loads & Resources Regional Tables
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Regional Loads															
<i>Regional Firm Loads</i>	19972	19849	18769	18976	21104	23047	23382	22355	20464	19442	19442	18967	20441	21519	20693
<i>Exports</i>	1500	1521	1464	1222	1166	1211	1202	1209	1291	1204	1212	1213	1392	1536	1303
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Regional Loads</i>	21472	21369	20232	20197	22270	24258	24584	23564	21755	20646	20654	20180	21833	23055	21995
Non-Firm Regional Loads															
<i>Regional Non-Firm Loads</i>	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>Total Non-Firm Regional Loads</i>	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>Total Loads</i>	21472	21369	20247	20197	22270	24258	24587	23587	21809	20680	20688	20180	21833	23055	22006
Hydro Resources															
<i>Regulated Hydro</i>	11635	9433	8527	9920	11759	12391	12028	10317	9474	8042	8316	12845	11985	11123	10765
<i>Independent Hydro</i>	988	969	850	916	836	900	767	821	1003	1278	1321	1618	1698	1229	1077
<i>Operational Peaking Adjustment</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Hydro Resources</i>	12623	10402	9377	10836	12595	13291	12795	11138	10477	9320	9637	14462	13683	12352	11842
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	2797	2797	2980	2862	2897	2934	3170	3157	3135	3066	3000	955	2828	3186	2824
<i>Renewables</i>	883	1035	806	836	884	864	855	847	1219	1119	1145	1150	1250	1081	991
<i>Cogeneration</i>	2687	2686	2693	2678	2719	2739	2744	2726	2076	2686	2688	1679	2297	2664	2530
<i>Imports</i>	1070	1056	964	1023	1401	1647	1569	1541	1291	1197	1138	958	1088	1174	1239
<i>Large Thermal</i>	6252	6252	6232	6232	6232	6232	6232	6232	5917	5271	4935	5133	5980	6001	5981
<i>Non-Utility Generation</i>	717	714	605	529	515	509	496	499	514	667	669	816	833	804	626
<i>Resource Acquisition</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	14406	14541	14280	14161	14649	14925	15065	15002	14153	14007	13573	10692	14277	14909	14191
<i>Total Resources</i>	27029	24942	23657	24997	27244	28215	27860	26140	24630	23327	23210	25154	27960	27261	26033
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Regional Hydro Maintenance</i>	-30	-25	-8.6	-9	-3.8	0	0	0	-5.2	-7.4	-7.6	-20	-14	-49	-12
<i>Regional Transmission Losses</i>	-761	-703	-667	-705	-768	-796	-786	-737	-694	-658	-654	-709	-788	-767	-734
<i>Total Reserves, Maintenance & Losses</i>	-791	-727	-675	-714	-772	-796	-786	-737	-700	-665	-662	-729	-802	-817	-746
<i>Total Net Resources</i>	26237	24215	22981	24283	26472	27420	27075	25403	23931	22662	22548	24425	27158	26444	25287
Surplus/Deficits															
<i>Firm Surplus/Deficit</i>	4766	2846	2749	4086	4202	3161	2491	1839	2176	2016	1894	4245	5325	3389	3292
<i>Total Surplus/Deficit</i>	4766	2846	2735	4086	4202	3161	2488	1816	2121	1982	1861	4245	5325	3389	3281

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Regional Loads															
<i>Regional Firm Loads</i>	20881	21059	19799	19975	22293	24165	24543	23498	21543	20370	20370	19891	20726	21828	21627
<i>Exports</i>	1447	1470	1390	1150	1109	1140	1128	1128	1217	1140	1135	1164	1344	1471	1237
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Regional Loads</i>	22328	22529	21189	21125	23402	25304	25671	24625	22760	21510	21505	21055	22069	23299	22865
Non-Firm Regional Loads															
<i>Regional Non-Firm Loads</i>	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>Total Non-Firm Regional Loads</i>	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>Total Loads</i>	22328	22529	21204	21125	23402	25304	25674	24648	22814	21544	21539	21055	22069	23299	22875
Hydro Resources															
<i>Regulated Hydro</i>	11654	9448	8539	9926	11767	12398	12036	10324	9479	8046	8320	12851	11991	11130	10773
<i>Independent Hydro</i>	1000	980	862	928	848	902	765	819	1001	1276	1321	1629	1709	1241	1084
<i>Operational Peaking Adjustment</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Hydro Resources</i>	12655	10428	9401	10855	12615	13300	12802	11143	10481	9321	9641	14480	13700	12371	11857
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	3104	3070	3322	3123	3162	3200	3170	3158	3135	3066	3000	1212	2826	3158	2962
<i>Renewables</i>	889	1032	806	836	884	919	902	921	1349	1236	1262	1295	1390	1243	1064
<i>Cogeneration</i>	2675	2674	2678	2699	2729	2739	2742	2729	1956	2688	2689	1883	2277	2663	2536
<i>Imports</i>	1070	1056	962	1017	1311	1557	1379	1352	1102	1007	953	857	995	1080	1137
<i>Large Thermal</i>	6232	6232	6232	6232	6232	6232	6232	6232	6089	4952	4298	4718	5197	5954	5851
<i>Non-Utility Generation</i>	717	714	602	528	517	509	497	500	516	668	670	812	820	799	624
<i>Resource Acquisition</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	14687	14778	14603	14435	14835	15157	14923	14893	14147	13618	12872	10777	13505	14898	14175
<i>Total Resources</i>	27342	25206	24004	25289	27450	28458	27724	26036	24628	22940	22513	25257	27205	27269	26031
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Regional Hydro Maintenance</i>	-30	-25	-8.6	-9	-3.8	0	0	0	-5.2	-7.4	-7.6	-20	-14	-49	-12
<i>Regional Transmission Losses</i>	-770	-710	-677	-713	-774	-803	-782	-734	-694	-647	-635	-712	-767	-768	-734
<i>Total Reserves, Maintenance & Losses</i>	-800	-735	-685	-722	-778	-803	-782	-734	-700	-654	-642	-732	-781	-817	-746
<i>Total Net Resources</i>	26542	24471	23319	24567	26672	27655	26942	25302	23928	22285	21871	24526	26424	26452	25286
Surplus/Deficits															
<i>Firm Surplus/Deficit</i>	4213	1941	2130	3443	3270	2351	1272	676	1168	775	366	3470	4355	3153	2421
<i>Total Surplus/Deficit</i>	4213	1941	2116	3443	3270	2351	1268	653	1114	742	332	3470	4355	3153	2410

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Regional Loads															
<i>Regional Firm Loads</i>	21345	21356	20094	20223	22576	24494	24988	23941	21980	20687	20837	20298	21254	22505	22038
<i>Exports</i>	1440	1462	1381	1105	1060	1088	1077	1077	1167	1093	1084	1111	1288	1412	1193
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Regional Loads</i>	22785	22818	21475	21327	23636	25583	26065	25018	23147	21780	21921	21409	22542	23917	23231
Non-Firm Regional Loads															
<i>Regional Non-Firm Loads</i>	0	0	14	0	0	0	3.5	24	54	34	34	0	0	0	11
<i>Total Non-Firm Regional Loads</i>	0	0	14	0	0	0	3.5	24	54	34	34	0	0	0	11
<i>Total Loads</i>	22785	22818	21489	21327	23636	25583	26068	25042	23202	21813	21955	21409	22542	23917	23241
Hydro Resources															
<i>Regulated Hydro</i>	11663	9454	8544	9957	11805	12435	12075	10357	9508	8066	8344	12890	12022	11162	10800
<i>Independent Hydro</i>	1013	992	866	928	847	898	765	817	1001	1276	1321	1629	1709	1241	1084
<i>Operational Peaking Adjustment</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Hydro Resources</i>	12677	10446	9410	10885	12652	13333	12840	11174	10510	9342	9665	14519	13731	12403	11884
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	3274	3274	3341	3123	3162	3200	3170	3157	3135	3066	3000	1084	2826	3153	2969
<i>Renewables</i>	1016	1165	922	927	955	919	902	918	1349	1240	1262	1291	1390	1243	1097
<i>Cogeneration</i>	2675	2674	2678	2711	2709	2722	2761	2716	2004	2705	2706	1660	2535	2672	2544
<i>Imports</i>	976	962	867	922	1290	1537	1460	1437	1107	1014	958	862	1001	1088	1126
<i>Large Thermal</i>	6092	6232	6232	6232	6232	6232	6232	6232	6058	5351	4811	4854	6151	5944	5970
<i>Non-Utility Generation</i>	717	714	603	528	517	509	487	484	493	626	628	773	797	783	610
<i>Resource Acquisition</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	14750	15021	14644	14444	14866	15119	15012	14944	14146	14001	13366	10524	14699	14883	14316
<i>Total Resources</i>	27426	25467	24054	25329	27518	28453	27852	26118	24655	23343	23031	25043	28430	27286	26200
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Regional Hydro Maintenance</i>	-30	-25	-8.6	-9	-3.8	0	0	0	-5.2	-7.4	-7.6	-20	-14	-49	-12
<i>Regional Transmission Losses</i>	-773	-717	-678	-714	-776	-802	-785	-737	-695	-658	-649	-706	-801	-768	-738
<i>Total Reserves, Maintenance & Losses</i>	-803	-742	-687	-723	-780	-802	-785	-737	-700	-665	-657	-726	-816	-817	-751
<i>Total Net Resources</i>	26624	24725	23367	24606	26738	27650	27066	25381	23955	22678	22374	24317	27614	26469	25449
Surplus/Deficits															
<i>Firm Surplus/Deficit</i>	3838	1907	1892	3278	3102	2068	1001	363	808	898	453	2908	5072	2552	2219
<i>Total Surplus/Deficit</i>	3838	1907	1878	3278	3102	2068	998	340	753	864	419	2908	5072	2552	2208

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Regional Loads															
<i>Regional Firm Loads</i>	21930	21941	20649	20760	23157	25094	25350	24413	22376	21112	21112	20697	21602	22823	22491
<i>Exports</i>	1379	1401	1322	1083	1034	1062	1053	1055	1146	1079	1069	1099	1276	1391	1166
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Regional Loads</i>	23309	23342	21971	21843	24191	26156	26403	25468	23522	22190	22181	21796	22878	24214	23657
Non-Firm Regional Loads															
<i>Regional Non-Firm Loads</i>	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>Total Non-Firm Regional Loads</i>	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>Total Loads</i>	23309	23342	21985	21843	24191	26156	26407	25491	23576	22224	22214	21796	22878	24214	23668
Hydro Resources															
<i>Regulated Hydro</i>	11701	9484	8571	9966	11817	12446	12087	10367	9517	8071	8351	12901	12031	11173	10814
<i>Independent Hydro</i>	1013	992	866	928	847	898	765	819	1001	1276	1321	1629	1709	1241	1085
<i>Operational Peaking Adjustment</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Hydro Resources</i>	12714	10476	9437	10894	12664	13344	12852	11185	10518	9347	9672	14530	13740	12414	11899
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	3278	3278	3304	3123	3162	3200	3170	3157	3135	3066	3000	1212	2826	3183	2979
<i>Renewables</i>	1016	1165	924	927	955	920	901	921	1350	1236	1262	1279	1395	1238	1097
<i>Cogeneration</i>	2688	2687	2650	2682	2747	2757	2730	2751	2093	2301	2257	1915	2509	2670	2537
<i>Imports</i>	982	967	871	928	1285	1452	1370	1341	1113	891	837	742	837	926	1057
<i>Large Thermal</i>	5945	6232	6232	6232	6232	6232	6232	6232	6068	5952	5335	4494	4983	5924	5882
<i>Non-Utility Generation</i>	694	692	597	518	493	484	472	477	493	626	628	772	804	784	602
<i>Resource Acquisition</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	14602	15022	14579	14410	14875	15045	14874	14880	14252	14073	13320	10414	13352	14724	14155
<i>Total Resources</i>	27316	25497	24016	25304	27539	28389	27726	26066	24771	23420	22992	24944	27092	27138	26054
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Regional Hydro Maintenance</i>	-30	-25	-8.6	-9	-3.8	0	0	0	-5.2	-7.4	-7.6	-20	-14	-49	-12
<i>Regional Transmission Losses</i>	-769	-718	-677	-713	-776	-801	-782	-735	-698	-660	-648	-703	-764	-764	-734
<i>Total Reserves, Maintenance & Losses</i>	-799	-743	-686	-722	-780	-801	-782	-735	-704	-668	-656	-723	-778	-813	-747
<i>Total Net Resources</i>	26516	24754	23330	24582	26759	27588	26944	25331	24067	22753	22336	24221	26314	26325	25307
Surplus/Deficits															
<i>Firm Surplus/Deficit</i>	3207	1412	1359	2739	2568	1433	541	-137	545	562	156	2425	3436	2111	1650
<i>Total Surplus/Deficit</i>	3207	1412	1345	2739	2568	1433	537	-160	491	528	122	2425	3436	2111	1639

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Regional Loads															
Regional Firm Loads	22245	22257	20903	21011	23426	25386	26087	25117	23028	21723	21723	21272	22249	23506	22989
Exports	1356	1376	1298	1073	1024	1052	1043	1045	1136	1069	1059	1088	1266	1381	1154
Federal Diversity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Firm Regional Loads	23601	23633	22201	22084	24450	26438	27130	26162	24164	22791	22782	22360	23515	24887	24143
Non-Firm Regional Loads															
Regional Non-Firm Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
Total Non-Firm Regional Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
Total Loads	23601	23633	22216	22084	24450	26438	27134	26185	24218	22825	22815	22360	23515	24887	24154
Hydro Resources															
Regulated Hydro	11714	9494	8578	9975	11829	12561	12089	10368	9517	7869	8358	12911	12039	11183	10822
Independent Hydro	1013	992	866	928	847	898	765	819	1001	1276	1321	1629	1709	1241	1085
Operational Peaking Adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hydro Resources	12727	10485	9444	10903	12675	13459	12854	11187	10518	9145	9679	14540	13748	12424	11907
Other Resources															
Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combustion Turbines	3279	3280	3330	3123	3162	3200	3170	3158	3135	3066	3000	955	2827	3155	2958
Renewables	1016	1165	924	927	955	920	901	921	1350	1236	1262	1279	1401	1238	1098
Cogeneration	2689	2688	2687	2676	2711	2758	2733	2752	1976	2674	2257	1905	2534	2638	2541
Imports	817	803	752	808	1165	1333	1250	1221	993	896	842	748	843	933	976
Large Thermal	6232	6232	6232	6232	6232	6232	6232	6232	5949	5898	5437	5085	6227	6087	6052
Non-Utility Generation	694	693	598	519	494	484	472	478	494	627	628	772	796	782	602
Resource Acquisition	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Resources	14728	14860	14524	14285	14719	14927	14758	14762	13898	14397	13427	10743	14629	14833	14226
Total Resources	27455	25345	23968	25188	27394	28386	27612	25949	24416	23542	23106	25284	28377	27257	26133
Reserves & Maintenance															
Contingency Reserves (Non-Spinning)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Contingency Reserves (Spinning)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Generation Imbalance Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Load Following Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Regional Hydro Maintenance	-30	-25	-8.6	-9	-3.8	0	0	0	-5.2	-7.4	-7.6	-20	-14	-49	-12
Regional Transmission Losses	-773	-714	-676	-710	-772	-800	-779	-732	-688	-664	-651	-712	-800	-767	-737
Total Reserves, Maintenance & Losses	-803	-739	-684	-719	-776	-800	-779	-732	-694	-671	-659	-732	-814	-816	-749
Total Net Resources	26651	24607	23283	24469	26618	27586	26833	25217	23722	22871	22447	24551	27563	26441	25384
Surplus/Deficits															
Firm Surplus/Deficit	3050	974	1082	2385	2168	1147	-297	-945	-442	80	-335	2191	4048	1554	1241
Total Surplus/Deficit	3050	974	1068	2385	2168	1147	-300	-968	-496	46	-369	2191	4048	1554	1230

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Regional Loads															
<i>Regional Firm Loads</i>	22975	22835	21518	21600	24073	26129	26427	25436	23317	22012	22012	21556	22576	23844	23443
<i>Exports</i>	1343	1363	1288	1061	1010	1040	882	891	975	940	930	999	1177	1246	1073
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Regional Loads</i>	24318	24197	22806	22661	25083	27170	27309	26327	24292	22952	22942	22556	23754	25090	24515
Non-Firm Regional Loads															
<i>Regional Non-Firm Loads</i>	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>Total Non-Firm Regional Loads</i>	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>Total Loads</i>	24318	24197	22821	22661	25083	27170	27312	26350	24346	22985	22975	22556	23754	25090	24526
Hydro Resources															
<i>Regulated Hydro</i>	11727	9503	8585	9975	11829	12938	12054	10336	9486	7222	8358	12911	12039	11183	10821
<i>Independent Hydro</i>	1013	992	866	928	850	902	769	821	1003	1278	1324	1632	1712	1244	1087
<i>Operational Peaking Adjustment</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Hydro Resources</i>	12740	10495	9451	10903	12678	13840	12822	11157	10489	8501	9681	14543	13751	12427	11908
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	3269	3270	3317	3123	3162	3200	3170	3157	3135	3066	3000	1212	2826	3154	2977
<i>Renewables</i>	1016	1168	922	927	955	919	901	921	1350	1236	1262	1283	1390	1238	1097
<i>Cogeneration</i>	2689	2688	2687	2676	2748	2758	2730	2752	1974	2668	2257	1925	2375	2670	2535
<i>Imports</i>	823	808	757	813	1171	1337	1255	1227	998	901	847	753	850	935	981
<i>Large Thermal</i>	6092	6232	6232	6232	6232	6232	6232	6232	5878	5351	5213	4703	5202	5678	5857
<i>Non-Utility Generation</i>	694	693	599	520	496	486	474	480	496	629	630	775	799	784	603
<i>Resource Acquisition</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	14583	14859	14515	14291	14765	14932	14763	14770	13833	13851	13209	10651	13441	14460	14050
<i>Total Resources</i>	27323	25354	23967	25194	27443	28772	27585	25927	24321	22352	22891	25194	27192	26887	25958
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Regional Hydro Maintenance</i>	-30	-25	-8.6	-9	-3.8	0	0	0	-5.2	-7.4	-7.6	-20	-14	-49	-12
<i>Regional Transmission Losses</i>	-770	-714	-676	-710	-774	-811	-778	-731	-686	-630	-645	-710	-766	-757	-732
<i>Total Reserves, Maintenance & Losses</i>	-800	-739	-684	-719	-778	-811	-778	-731	-691	-638	-653	-730	-781	-806	-744
<i>Total Net Resources</i>	26523	24615	23283	24475	26666	27960	26808	25196	23630	21714	22238	24464	26411	26081	25215
Surplus/Deficits															
<i>Firm Surplus/Deficit</i>	2205	418	476	1814	1582	791	-501	-1131	-661	-1237	-704	1908	2657	991	699
<i>Total Surplus/Deficit</i>	2205	418	462	1814	1582	791	-505	-1154	-716	-1271	-738	1908	2657	991	688

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Regional Loads															
<i>Regional Firm Loads</i>	23318	23175	21825	21915	24422	26501	26756	25712	23623	22293	22293	21852	22896	24161	23766
<i>Exports</i>	1176	1198	1153	930	883	879	869	877	963	928	918	944	1120	1191	994
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Regional Loads</i>	24494	24373	22978	22846	25306	27380	27626	26589	24586	23221	23211	22796	24015	25353	24760
Non-Firm Regional Loads															
<i>Regional Non-Firm Loads</i>	0	0	14	0	0	0	3.5	24	54	34	34	0	0	0	11
<i>Total Non-Firm Regional Loads</i>	0	0	14	0	0	0	3.5	24	54	34	34	0	0	0	11
<i>Total Loads</i>	24494	24373	22993	22846	25306	27380	27629	26613	24640	23255	23245	22796	24015	25353	24771
Hydro Resources															
<i>Regulated Hydro</i>	11727	9503	8585	9975	11829	12561	12089	10368	9517	7869	8358	12911	12039	11183	10822
<i>Independent Hydro</i>	1017	995	868	930	850	902	769	819	1003	1278	1324	1632	1712	1244	1087
<i>Operational Peaking Adjustment</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Hydro Resources</i>	12743	10498	9453	10906	12678	13463	12857	11187	10520	9148	9681	14543	13751	12427	11909
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	3271	3271	3316	3123	3162	3200	3170	3157	3135	3066	3000	1084	2826	3154	2967
<i>Renewables</i>	1016	1168	922	927	955	919	902	918	1349	1236	1262	1283	1390	1243	1096
<i>Cogeneration</i>	2688	2687	2650	2682	2747	2757	2730	2751	2093	2301	2257	1907	2507	2670	2537
<i>Imports</i>	824	810	755	814	1097	1264	1183	1158	1000	905	851	758	856	932	959
<i>Large Thermal</i>	5945	6232	6232	6232	6232	6232	6232	6232	6089	5293	4503	5378	6013	6024	5991
<i>Non-Utility Generation</i>	694	693	599	568	545	536	524	531	546	679	680	825	849	834	645
<i>Resource Acquisition</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	14437	14861	14474	14346	14739	14908	14741	14747	14213	13481	12555	11236	14440	14858	14195
<i>Total Resources</i>	27180	25359	23927	25252	27417	28371	27598	25933	24733	22629	22236	25779	28190	27285	26104
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Regional Hydro Maintenance</i>	-30	-25	-8.6	-9	-3.8	0	0	0	-5.2	-7.4	-7.6	-20	-14	-49	-12
<i>Regional Transmission Losses</i>	-766	-714	-675	-712	-773	-800	-778	-731	-697	-638	-627	-726	-795	-768	-736
<i>Total Reserves, Maintenance & Losses</i>	-796	-739	-683	-721	-777	-800	-778	-731	-703	-645	-634	-746	-809	-817	-748
<i>Total Net Resources</i>	26384	24620	23244	24531	26641	27571	26820	25202	24030	21983	21602	25033	27381	26467	25356
Surplus/Deficits															
<i>Firm Surplus/Deficit</i>	1890	247	266	1685	1335	190	-806	-1387	-555	-1238	-1609	2237	3366	1114	596
<i>Total Surplus/Deficit</i>	1890	247	252	1685	1335	190	-810	-1411	-610	-1272	-1643	2237	3366	1114	586

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Regional Loads															
<i>Regional Firm Loads</i>	23585	23597	22128	22204	24746	26843	27169	26048	23989	22705	22541	22162	23208	24530	24098
<i>Exports</i>	1119	1140	1101	879	861	856	847	857	942	908	897	924	1101	1177	965
<i>Federal Diversity</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Firm Regional Loads</i>	24704	24738	23229	23083	25608	27699	28016	26904	24931	23612	23438	23087	24308	25707	25063
Non-Firm Regional Loads															
<i>Regional Non-Firm Loads</i>	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>Total Non-Firm Regional Loads</i>	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>Total Loads</i>	24704	24738	23243	23083	25608	27699	28020	26927	24985	23646	23472	23087	24308	25707	25074
Hydro Resources															
<i>Regulated Hydro</i>	11727	9503	8585	9975	11829	12938	12054	10336	9486	7222	8358	12911	12039	11183	10821
<i>Independent Hydro</i>	1017	995	868	930	850	902	769	821	1003	1278	1324	1632	1712	1244	1088
<i>Operational Peaking Adjustment</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Hydro Resources</i>	12743	10498	9453	10906	12678	13840	12822	11157	10489	8501	9681	14543	13751	12427	11909
Other Resources															
<i>Small Thermal & Misc.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Combustion Turbines</i>	3271	3271	3316	3123	3162	3200	3170	3157	3135	3066	3000	1212	2828	3154	2977
<i>Renewables</i>	1016	1165	922	927	955	919	902	921	1349	1236	1266	1279	1390	1243	1097
<i>Cogeneration</i>	2689	2688	2687	2676	2711	2758	2729	2748	1972	2671	1984	1905	2638	2634	2537
<i>Imports</i>	820	805	749	808	1074	1242	1160	1131	978	883	853	764	863	939	948
<i>Large Thermal</i>	6232	6232	6232	6232	6232	6232	6232	6232	6089	5432	5123	4893	5197	5921	5917
<i>Non-Utility Generation</i>	745	744	649	568	545	535	524	530	546	679	680	825	849	834	653
<i>Resource Acquisition</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Other Resources</i>	14772	14905	14556	14335	14679	14887	14717	14720	14070	13968	12907	10877	13765	14727	14130
<i>Total Resources</i>	27516	25403	24009	25241	27358	28726	27539	25877	24559	22468	22588	25420	27515	27154	26038
Reserves & Maintenance															
<i>Contingency Reserves (Non-Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Contingency Reserves (Spinning)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Generation Imbalance Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Load Following Reserves</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Regional Hydro Maintenance</i>	-30	-25	-8.6	-9	-3.8	0	0	0	-5.2	-7.4	-7.6	-20	-14	-49	-12
<i>Regional Transmission Losses</i>	-775	-716	-677	-712	-771	-810	-777	-730	-692	-633	-637	-716	-776	-764	-734
<i>Total Reserves, Maintenance & Losses</i>	-805	-740	-685	-721	-775	-810	-777	-730	-698	-641	-644	-736	-790	-814	-746
<i>Total Net Resources</i>	26711	24663	23324	24520	26583	27916	26763	25147	23861	21828	21944	24684	26725	26340	25292
Surplus/Deficits															
<i>Firm Surplus/Deficit</i>	2006	-74	95	1437	975	218	-1254	-1757	-1070	-1785	-1495	1597	2417	633	229
<i>Total Surplus/Deficit</i>	2006	-74	81	1437	975	218	-1257	-1780	-1124	-1819	-1528	1597	2417	633	218

Loads and Resources - Pacific Northwest Region
 PNW Loads and Resource Study
 2017 - 2018 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<u>Firm Regional Loads</u>															
Regional Firm Loads	23944	23956	22454	22519	25097	27210	27464	26404	24254	22800	22966	22422	23485	24834	24409
Exports	1085	1107	1067	845	828	825	816	821	863	799	789	816	992	1069	903
Federal Diversity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Firm Regional Loads	25029	25063	23521	23364	25925	28035	28281	27225	25117	23600	23756	23238	24477	25903	25312
<u>Non-Firm Regional Loads</u>															
Regional Non-Firm Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
Total Non-Firm Regional Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
Total Loads	25029	25063	23535	23364	25925	28035	28284	27248	25171	23633	23789	23238	24477	25903	25323
<u>Hydro Resources</u>															
Regulated Hydro	11727	9503	8585	9975	11829	12561	12089	10368	9517	7869	8358	12911	12039	11183	10824
Independent Hydro	1017	995	868	930	850	902	769	821	1003	1278	1324	1632	1712	1244	1088
Operational Peaking Adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hydro Resources	12743	10498	9453	10906	12678	13463	12857	11189	10520	9148	9681	14543	13751	12427	11911
<u>Other Resources</u>															
Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combustion Turbines	3271	3271	3316	3123	3162	3200	3170	3157	3135	3066	3000	955	2828	3154	2956
Renewables	1016	1165	922	927	955	920	901	921	1349	1240	1262	1272	1401	1243	1097
Cogeneration	2685	2684	2684	2672	2745	2754	2727	2748	1971	2395	1984	1918	2641	2667	2531
Imports	825	811	754	813	1079	1248	1165	1132	938	812	784	694	794	871	924
Large Thermal	6092	6232	6232	6232	6232	6232	6232	6232	6058	5219	4643	4913	6232	5944	5968
Non-Utility Generation	745	744	649	568	545	535	524	530	546	679	680	825	849	834	653
Resource Acquisition	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Resources	14634	14907	14557	14336	14718	14890	14719	14721	13997	13410	12353	10577	14745	14714	14130
Total Resources	27378	25406	24011	25242	27397	28352	27576	25909	24517	22558	22035	25120	28496	27141	26041
<u>Reserves & Maintenance</u>															
Contingency Reserves (Non-Spinning)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Contingency Reserves (Spinning)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Generation Imbalance Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Load Following Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Regional Hydro Maintenance	-30	-25	-8.6	-9	-3.8	0	0	0	-5.2	-7.4	-7.6	-20	-14	-49	-12
Regional Transmission Losses	-771	-716	-677	-712	-772	-800	-778	-731	-691	-636	-621	-708	-803	-764	-734
Total Reserves, Maintenance & Losses	-801	-740	-685	-721	-776	-800	-778	-731	-696	-643	-629	-728	-818	-813	-746
Total Net Resources	26577	24665	23325	24521	26621	27553	26799	25179	23821	21915	21406	24392	27678	26327	25295
<u>Surplus/Deficits</u>															
Firm Surplus/Deficit	1547	-398	-196	1157	696	-482	-1482	-2046	-1296	-1685	-2350	1155	3202	424	-17
Total Surplus/Deficit	1547	-398	-210	1157	696	-482	-1486	-2069	-1350	-1719	-2383	1155	3202	424	-27

Loads and Resources - Pacific Northwest Region
 PNW Loads and Resource Study
 2018 - 2019 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Regional Loads															
Regional Firm Loads	24248	24260	22742	22806	25413	27550	27792	26709	24547	23159	23159	22690	23771	25133	24708
Exports	996	1018	979	787	769	766	757	778	852	786	775	804	980	1051	860
Federal Diversity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Firm Regional Loads	25244	25278	23720	23593	26182	28316	28549	27487	25399	23945	23934	23494	24750	26184	25567
Non-Firm Regional Loads															
Regional Non-Firm Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
Total Non-Firm Regional Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
Total Loads	25244	25278	23735	23593	26182	28316	28553	27510	25453	23979	23968	23494	24750	26184	25578
Hydro Resources															
Regulated Hydro	11727	9503	8585	9975	11829	12938	12054	10336	9486	7222	8358	12911	12039	11183	10821
Independent Hydro	1017	995	868	930	850	902	769	821	1003	1278	1324	1632	1712	1244	1088
Operational Peaking Adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hydro Resources	12743	10498	9453	10906	12678	13840	12822	11157	10489	8501	9681	14543	13751	12427	11909
Other Resources															
Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combustion Turbines	3271	3271	3316	3123	3162	3200	3170	3157	3135	3066	3000	1212	2826	3154	2977
Renewables	1016	1165	924	927	955	920	901	921	1350	1236	1262	1272	1406	1238	1098
Cogeneration	2684	2683	2646	2679	2744	2753	2726	2747	2090	2297	2254	2085	2438	2666	2543
Imports	756	742	684	773	1039	1209	1125	1097	943	817	788	699	800	878	899
Large Thermal	5945	6232	6232	6232	6232	6232	6232	6232	6068	5952	5335	4494	4983	5924	5882
Non-Utility Generation	745	744	649	568	545	535	527	533	549	672	678	823	832	833	652
Resource Acquisition	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Resources	14416	14837	14452	14302	14678	14850	14682	14688	14135	14041	13317	10585	13284	14694	14050
Total Resources	27160	25335	23906	25208	27356	28689	27504	25846	24624	22542	22999	25128	27035	27121	25959
Reserves & Maintenance															
Contingency Reserves (Non-Spinning)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Contingency Reserves (Spinning)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Generation Imbalance Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Load Following Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Regional Hydro Maintenance	-30	-25	-8.6	-9	-3.8	0	0	0	-5.2	-7.4	-7.6	-20	-14	-49	-12
Regional Transmission Losses	-765	-714	-674	-711	-771	-809	-776	-729	-694	-635	-648	-708	-762	-763	-732
Total Reserves, Maintenance & Losses	-795	-738	-682	-720	-775	-809	-776	-729	-699	-643	-656	-728	-776	-813	-744
Total Net Resources	26364	24597	23223	24488	26581	27880	26728	25117	23924	21899	22343	24400	26259	26308	25215
Surplus/Deficits															
Firm Surplus/Deficit	1120	-681	-497	896	399	-435	-1821	-2370	-1474	-2046	-1592	907	1508	124	-352
Total Surplus/Deficit	1120	-681	-511	896	399	-435	-1825	-2393	-1529	-2080	-1625	907	1508	124	-363

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Section 7
Monthly Regional 70-Water Year
Surplus/Deficit
Average Energy in Megawatts

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70-Water Year Surplus/Deficit
Regional Tables
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-30: Regional Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Regional Surplus/Deficit	5424	2949	3831	4643	4494	3297	1975	2642	3460	3092	5039	2887	7144	4390	3915
1930 Regional Surplus/Deficit	3968	2108	3343	4250	3822	3087	2302	2564	2867	3323	7027	2159	4208	3981	3396
1931 Regional Surplus/Deficit	2562	2072	3013	3913	4258	3230	2410	2436	2608	4063	1596	2825	3780	4022	3138
1932 Regional Surplus/Deficit	4355	2752	3809	3176	3288	2904	1714	1673	4568	7506	11904	11440	11621	6098	5303
1933 Regional Surplus/Deficit	4079	3434	3973	4414	4267	4896	9659	6571	3529	7543	8168	9387	11776	10222	6689
1934 Regional Surplus/Deficit	8335	5995	5192	6409	8572	11089	10978	11143	10214	11645	11266	9889	9782	5484	8928
1935 Regional Surplus/Deficit	3127	2165	3570	4267	4129	3989	8487	9551	2954	4972	7425	8681	8710	7829	5889
1936 Regional Surplus/Deficit	6433	3410	3261	4112	3833	2895	959	2937	3128	4735	10954	10079	11469	4657	5004
1937 Regional Surplus/Deficit	4766	2846	2735	4086	4202	3161	2488	1816	2121	1982	1861	4245	5325	3389	3281
1938 Regional Surplus/Deficit	5199	3283	3501	4238	4477	4713	8976	5085	6893	9134	12375	12081	10631	6942	6885
1939 Regional Surplus/Deficit	3944	2403	4115	4516	4008	3115	2864	2689	4580	6251	10246	10286	7380	4133	4931
1940 Regional Surplus/Deficit	2866	1764	2731	4487	4341	4665	2489	3828	7697	8992	9975	6901	8147	2733	4979
1941 Regional Surplus/Deficit	2325	1814	3383	4037	4269	3329	1655	3058	5192	3642	4750	3377	4361	3782	3557
1942 Regional Surplus/Deficit	3749	2800	4489	3451	4256	5265	4404	5368	2692	4189	8437	6968	11533	8516	5532
1943 Regional Surplus/Deficit	6303	4025	4186	4422	4079	4361	7389	8055	8022	12745	12375	11884	11912	9560	7620
1944 Regional Surplus/Deficit	5774	3221	2625	4420	4371	3429	2275	2797	3551	3200	5081	1896	3300	2453	3310
1945 Regional Surplus/Deficit	3624	2493	4060	3179	3023	2669	2141	1696	2515	1946	575	8048	9512	3831	3757
1946 Regional Surplus/Deficit	4190	2479	3101	3969	5154	5019	6927	4338	9194	10864	12260	12057	11266	8739	7067
1947 Regional Surplus/Deficit	5541	3838	4247	4354	5209	9191	9301	10036	10207	9896	10578	10444	11513	8535	8149
1948 Regional Surplus/Deficit	4951	3422	3971	8865	8725	6272	10968	6279	6513	7740	11818	12102	12137	10234	8348
1949 Regional Surplus/Deficit	7959	6255	5077	5343	4850	4490	2704	6002	9648	10525	12169	12149	11539	3904	7006
1950 Regional Surplus/Deficit	3958	1906	2658	4352	4769	4511	8120	9548	11594	12380	11995	10937	11472	10488	7780
1951 Regional Surplus/Deficit	6840	5376	4548	6973	8259	10761	11416	12082	11480	12399	12288	11830	11252	10173	9755
1952 Regional Surplus/Deficit	7617	4259	4268	7887	6719	6590	10883	7459	4900	11923	12406	12227	12029	7579	8216
1953 Regional Surplus/Deficit	5370	3612	3343	4258	3770	3237	4583	9373	5376	3661	7927	10951	12048	10423	6447
1954 Regional Surplus/Deficit	6018	4057	4098	5311	5394	6079	8125	11016	6636	9698	9987	11601	11366	10360	7880
1955 Regional Surplus/Deficit	10484	9524	8153	5478	6837	5477	3805	3391	3859	4872	6287	6688	11681	10262	6780
1956 Regional Surplus/Deficit	8333	5498	4047	6285	8284	9927	11704	11563	11443	12522	12220	11936	11983	10415	9726
1957 Regional Surplus/Deficit	6372	5052	4378	5860	4673	5753	5659	5461	8767	10156	10184	12255	11849	5830	7203
1958 Regional Surplus/Deficit	4651	2451	3676	4421	4523	3948	5376	9248	6620	8443	11384	12210	11781	5638	6710
1959 Regional Surplus/Deficit	4546	3125	3442	4974	6397	8117	10944	11262	7161	11879	10157	11092	11299	7856	8089
1960 Regional Surplus/Deficit	6612	4700	8508	9910	10525	8645	8878	7298	7552	12305	11683	9250	11353	7556	8920
1961 Regional Surplus/Deficit	5596	2847	4094	4637	4928	3574	8326	7523	8536	11143	7520	11091	11134	6529	6981
1962 Regional Surplus/Deficit	4952	4048	3203	3862	4690	5030	6191	6534	4014	9121	12305	10357	11383	5014	6275
1963 Regional Surplus/Deficit	4988	3174	3119	5884	6754	7712	7757	8869	3435	6223	7258	8386	11874	7792	6846
1964 Regional Surplus/Deficit	6006	3849	4030	4171	4925	4466	5123	6214	3534	6840	5377	9542	12253	10281	6290
1965 Regional Surplus/Deficit	8243	4323	5725	6286	6075	9779	11569	11989	10864	9727	12396	11996	11706	7510	9215
1966 Regional Surplus/Deficit	7103	5545	4791	5515	4728	4091	7257	4661	2994	12055	9031	8750	9712	7970	6446
1967 Regional Surplus/Deficit	5887	3678	3574	4241	4270	5026	11004	11515	7235	7489	4710	9341	12037	10242	7421
1968 Regional Surplus/Deficit	7058	4171	4220	5345	4887	4738	9104	9174	7672	3713	5704	6719	11478	9583	6921
1969 Regional Surplus/Deficit	6890	5262	7028	6859	8248	6729	11248	11585	7665	12487	12174	12269	11708	9175	9215
1970 Regional Surplus/Deficit	4641	2860	3824	5260	4938	3277	4491	8235	6232	6445	6522	8794	12091	6535	6132
1971 Regional Surplus/Deficit	4536	2349	3114	4336	4631	4752	11772	11856	11640	12529	12197	12016	12127	10947	8558
1972 Regional Surplus/Deficit	8879	5867	4897	5759	5380	5038	11853	12205	11960	12628	11917	11892	12158	10467	9249
1973 Regional Surplus/Deficit	10180	7943	5490	5349	4900	6172	5549	3626	3697	1997	5275	5841	5736	4343	5298
1974 Regional Surplus/Deficit	2734	1519	3028	4153	3796	7912	11880	12168	11845	12440	12193	11726	12025	10604	8609
1975 Regional Surplus/Deficit	8219	6216	4617	4046	4553	3806	7332	6646	8119	4848	7573	11588	12126	10842	7265
1976 Regional Surplus/Deficit	5337	5230	5168	7054	8584	11695	11518	11736	9583	12549	12139	12032	11975	10297	9759
1977 Regional Surplus/Deficit	10938	10963	9737	5206	4592	3369	2179	3056	3226	2363	3082	1014	2074	2513	4223
1978 Regional Surplus/Deficit	4113	3109	3731	2250	3244	5935	5681	5488	6112	11609	9285	10552	9771	8028	6236
1979 Regional Surplus/Deficit	4787	4081	6891	5296	4736	3523	2902	5779	8038	6109	6246	9637	6317	3720	5614
1980 Regional Surplus/Deficit	2313	1703	2859	4003	4180	4733	1877	5262	3774	5892	10937	12070	11858	5465	5529
1981 Regional Surplus/Deficit	4070	2373	3986	4329	5212	9513	10781	8941	7038	4077	7012	7774	11557	10058	7322
1982 Regional Surplus/Deficit	8368	6610	4268	4981	5496	4983	9268	12113	11605	12007	10425	11973	11766	9870	8728
1983 Regional Surplus/Deficit	8408	5198	6533	6772	6043	6183	11188	8125	11768	10671	11083	10737	11675	10658	8950
1984 Regional Surplus/Deficit	8517	5441	5319	5215	9450	5269	11846	7860	11775	12518	12200	8369	12111	10279	8897
1985 Regional Surplus/Deficit	6450	3640	4738	5158	6368	4330	5510	3112	6643	10635	11214	10876	8422	3286	6207
1986 Regional Surplus/Deficit	1887	1517	3628	5099	7089	2644	8562	9517	11764	12456	11333	7639	10496	6330	7165
1987 Regional Surplus/Deficit	4826	2811	3275	4138	5921	4189	2624	4334	5267	6945	6914	6782	7991	3928	4923
1988 Regional Surplus/Deficit	2802	1583	2757	3509	3704	2544	1466	2239	2917	3475	6278	5409	3230	4636	3293
1989 Regional Surplus/Deficit	4489	2833	3194	3223	3950	3998	2064	3827	6036	10668	12197	9725	8473	4441	5330
1990 Regional Surplus/Deficit	2268	2138	3237	4009	5037	6723	9905	7636	6238	10827	11367	8907	11220	6945	6916
1991 Regional Surplus/Deficit	5648	4557	3021	3802	8584	6821	10556	11304	5897	9612	8714	10831	10923	10039	7976
1992 Regional Surplus/Deficit	8158	5065	3705	3789	4254	2818	2977	2768	6985	4819	5697	4381	4285	3373	4274

Table A-30: Regional Surplus/Deficit - By Water Year
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Regional Surplus/Deficit</i>	1872	1642	2296	3588	3755	3222	2107	2914	3988	5534	5483	8830	6217	5456	4143
<i>1994 Regional Surplus/Deficit</i>	4452	3630	2569	3670	4628	3632	2264	4147	3519	3384	9356	5375	5305	4147	4132
<i>1995 Regional Surplus/Deficit</i>	2499	1716	2560	3421	3660	4133	4257	8543	9523	9098	6423	8706	10454	7479	6027
<i>1996 Regional Surplus/Deficit</i>	5038	3183	3715	5724	10706	11514	11595	12170	11593	12442	12511	12101	11755	10353	9798
<i>1997 Regional Surplus/Deficit</i>	7878	4040	4427	5167	5147	6611	11854	12226	11879	12337	12220	12063	12069	10699	9175
<i>1998 Regional Surplus/Deficit</i>	8117	5377	7083	9953	7263	4684	8800	8214	7433	7570	7679	9203	11969	7747	8051
-Ranked Averages-															
Top Ten Percent	7080	4963	5018	6420	7934	9349	11558	11904	10655	12108	12235	12008	11791	9770	9531
Middle Eighty Percent	5608	3863	4210	4875	5248	5114	6771	7008	6843	8377	9313	9536	10364	7377	6734
Bottom Ten Percent	3689	2305	3131	3914	3950	3064	2105	2372	3110	3090	3881	3994	4816	3728	3390

Table A-30: Regional Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Regional Surplus/Deficit	4871	2042	3211	4004	3566	2487	755	1479	2454	1855	3512	2108	6176	4156	3044
1930 Regional Surplus/Deficit	3412	1201	2725	3608	2889	2276	1083	1401	1860	2087	5502	1383	3240	3747	2525
1931 Regional Surplus/Deficit	2005	1167	2394	3273	3331	2420	1190	1273	1601	2826	69	2043	2809	3788	2268
1932 Regional Surplus/Deficit	3800	1847	3191	2536	2360	2092	492	509	3559	6266	11098	11365	11627	5865	4602
1933 Regional Surplus/Deficit	3521	2529	3354	3775	3338	4086	8423	5414	2521	6307	6647	8619	11781	10219	5919
1934 Regional Surplus/Deficit	7793	5099	4576	5770	7626	10907	10872	10885	9180	11680	11288	9120	8773	5250	8386
1935 Regional Surplus/Deficit	2574	1262	2956	3628	3199	3179	7260	8349	1947	3733	5900	7907	7746	7600	5017
1936 Regional Surplus/Deficit	5884	2505	2641	3473	2905	2084	-263	1775	2121	3503	9439	9311	11057	4424	4181
1937 Regional Surplus/Deficit	4213	1941	2116	3443	3270	2351	1268	653	1114	742	332	3470	4355	3153	2410
1938 Regional Surplus/Deficit	4647	2380	2884	3600	3548	3902	7749	3923	5887	7909	12205	11943	9669	6710	6126
1939 Regional Surplus/Deficit	3392	1501	3501	3875	3080	2304	1644	1525	3577	5020	8734	9522	6416	3898	4064
1940 Regional Surplus/Deficit	2309	857	2112	3848	3413	3856	1268	2664	6691	7756	8455	6134	7186	2498	4111
1941 Regional Surplus/Deficit	1767	908	2765	3398	3342	2519	511	1804	4187	2404	3228	2599	3395	3548	2687
1942 Regional Surplus/Deficit	3191	1893	3872	2811	3328	4455	3184	4206	1686	2952	6916	6198	10573	8287	4664
1943 Regional Surplus/Deficit	5753	3123	3573	3779	3150	3550	6170	6869	7016	12774	12403	11110	11924	9330	6945
1944 Regional Surplus/Deficit	5223	2314	2002	3780	3443	2618	1055	1635	2546	1963	3559	1119	2331	2217	2440
1945 Regional Surplus/Deficit	3074	1594	3447	2535	2095	1858	919	531	1508	708	-954	7274	8548	3596	2887
1946 Regional Surplus/Deficit	3634	1572	2481	3326	4226	4209	5707	3182	8182	9626	12283	12012	10305	8510	6323
1947 Regional Surplus/Deficit	4990	2934	3631	3714	4281	8373	8073	8854	9183	8661	9060	9671	11311	8306	7339
1948 Regional Surplus/Deficit	4401	2518	3355	8202	7799	5463	10370	4037	5508	6506	10521	12048	12134	10234	7617
1949 Regional Surplus/Deficit	7416	5360	4463	4704	3922	3680	1484	4840	8613	9297	12168	11857	11044	3669	6278
1950 Regional Surplus/Deficit	3406	1004	2041	3713	3841	3700	6892	8355	11126	10938	10458	10155	11480	10403	7036
1951 Regional Surplus/Deficit	6292	4476	3932	6334	7332	9932	11327	11821	10893	12446	12318	11627	10292	10173	9271
1952 Regional Surplus/Deficit	7074	3360	3651	7238	5792	5781	9655	6294	3898	10641	12204	12173	11685	7347	7511
1953 Regional Surplus/Deficit	4819	2708	2724	3616	2841	2426	3362	8191	4369	2424	6407	10182	12052	10421	5676
1954 Regional Surplus/Deficit	5471	3155	3482	4672	4467	5270	6897	9826	5631	8463	8469	10895	11375	10357	7114
1955 Regional Surplus/Deficit	9947	8638	7546	4839	5910	4668	2586	2228	2855	3634	4762	5912	11688	10259	6013
1956 Regional Surplus/Deficit	7789	4604	3432	5646	7358	9098	11614	9688	10417	11313	12258	11881	12001	10413	9123
1957 Regional Surplus/Deficit	5825	4152	3764	5222	3745	4943	4440	4307	7762	8922	8667	12199	11872	5597	6478
1958 Regional Surplus/Deficit	4100	1549	3059	3782	3595	3137	4157	8066	5615	7210	9868	12158	11778	5404	5981
1959 Regional Surplus/Deficit	3994	2222	2823	4335	5470	7298	10841	10032	4853	10558	8538	10176	11320	7625	7261
1960 Regional Surplus/Deficit	6064	3799	7899	9241	9568	7827	7651	6137	6548	12344	10170	8484	11284	7325	8173
1961 Regional Surplus/Deficit	5042	1942	3481	3998	4000	2764	7099	6329	7531	9910	5997	10311	11134	6296	6188
1962 Regional Surplus/Deficit	4400	3150	2586	3223	3762	4220	4972	5372	3008	7885	12325	9593	11355	4779	5547
1963 Regional Surplus/Deficit	4433	2269	2503	5245	5826	6893	6532	7675	2430	4986	5733	7617	10952	7562	5977
1964 Regional Surplus/Deficit	5460	2948	3415	3531	3997	3657	3904	5061	2528	5600	3849	8777	12253	10277	5522
1965 Regional Surplus/Deficit	7699	3422	5113	5646	5148	8961	11488	11729	9836	8462	12419	11635	11594	7280	8678
1966 Regional Surplus/Deficit	6559	4649	4174	4875	3800	3281	6039	3504	1987	11581	7511	7986	8750	7740	5611
1967 Regional Surplus/Deficit	5337	2776	2953	3601	3342	4216	10777	10185	4786	6046	3097	8558	12028	10242	6586
1968 Regional Surplus/Deficit	6508	3266	3604	4706	3959	3928	7878	7982	6669	2477	4185	5947	11161	9354	6104
1969 Regional Surplus/Deficit	6337	4357	6412	6221	7322	5921	11147	9509	6159	12531	12204	12214	11222	8946	8547
1970 Regional Surplus/Deficit	4087	1959	3210	4621	4010	2467	3269	7050	5227	5211	5005	8026	12085	6302	5342
1971 Regional Surplus/Deficit	3983	1443	2497	3697	3703	3942	11260	11589	10129	10712	11015	11960	12132	10943	7926
1972 Regional Surplus/Deficit	8332	4966	4282	5120	4452	4228	11122	11151	12473	12662	10405	11837	12163	10464	8772
1973 Regional Surplus/Deficit	9640	7053	4878	4710	3971	5362	4329	2473	2691	758	3750	5066	4770	4108	4431
1974 Regional Surplus/Deficit	2177	614	2412	3513	2866	7093	11773	11890	12372	12476	12228	11674	12043	10601	8310
1975 Regional Surplus/Deficit	7669	5317	4004	3404	3625	2995	6102	5493	7114	3613	6057	10812	12133	10838	6496
1976 Regional Surplus/Deficit	4787	4332	4551	6415	7658	11506	11425	11031	7289	11974	11249	11978	11875	10293	9170
1977 Regional Surplus/Deficit	10399	10081	9133	4566	3664	2558	959	1894	2222	1125	1559	230	1101	2279	3356
1978 Regional Surplus/Deficit	3564	2211	3116	1610	2315	5112	4460	4324	5105	10334	7760	9767	8809	7797	5364
1979 Regional Surplus/Deficit	4231	3180	6283	4658	3808	2713	1682	4618	7034	4876	4725	8864	5349	3485	4746
1980 Regional Surplus/Deficit	1755	801	2244	3364	3252	3923	694	4056	2767	4662	9424	11793	10897	5231	4703
1981 Regional Surplus/Deficit	3512	1469	3369	3685	4284	8695	10681	5904	6034	2681	5458	6974	11567	10059	6494
1982 Regional Surplus/Deficit	7822	5714	3649	4342	4568	4173	8042	11839	12137	10217	8807	11581	11754	9640	8142
1983 Regional Surplus/Deficit	7863	4298	5921	6134	5115	5373	9957	6943	12300	9404	9572	9961	10711	10655	8229
1984 Regional Surplus/Deficit	7975	4543	4706	4575	8503	4459	11748	5269	10948	10811	10686	7601	12105	10050	8089
1985 Regional Surplus/Deficit	5904	2741	4125	4518	5439	3520	4294	1953	5639	9361	9699	10110	7456	3051	5339
1986 Regional Surplus/Deficit	1331	612	3011	4460	6162	1833	7334	8308	12283	11991	9821	6871	9532	6097	6454
1987 Regional Surplus/Deficit	4278	1907	2659	3498	4993	3379	1403	3171	4263	5715	5394	6006	7028	3692	4055
1988 Regional Surplus/Deficit	2244	675	2142	2864	2777	1733	245	1075	1910	2236	4752	4629	2259	4400	2422
1989 Regional Surplus/Deficit	3937	1928	2573	2584	3021	3188	842	2664	5031	9416	10866	8955	7510	4207	4468
1990 Regional Surplus/Deficit	1708	1230	2617	3370	4109	5914	8679	6475	5232	9596	11403	8137	11216	6713	6190
1991 Regional Surplus/Deficit	5102	3660	2406	3162	7658	6013	9819	10069	3985	8336	7183	10053	9960	10032	7084
1992 Regional Surplus/Deficit	7613	4170	3088	3146	3320	2006	1757	1604	5981	3582	4172	3598	3317	3136	3403

Table A-30: Regional Surplus/Deficit - By Water Year
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Regional Surplus/Deficit</i>	1314	736	1676	2948	2827	2412	887	1752	2981	4296	3958	8058	5249	5222	3273
<i>1994 Regional Surplus/Deficit</i>	3898	2728	1946	3024	3701	2822	1043	2985	2512	2146	7834	4601	4338	3913	3261
<i>1995 Regional Surplus/Deficit</i>	1941	809	1938	2779	2730	3323	3037	7352	8489	7863	4897	7938	9490	7247	5153
<i>1996 Regional Surplus/Deficit</i>	4487	2281	3099	5086	9760	11317	11511	11906	12112	11584	12545	11872	11751	10351	9499
<i>1997 Regional Surplus/Deficit</i>	7330	3136	3810	4528	4219	5802	11762	11968	12405	11185	12253	12009	12077	10694	8830
<i>1998 Regional Surplus/Deficit</i>	7567	4475	6473	9280	6337	3875	7577	7050	6428	6340	6165	8424	11973	7518	7259
-Ranked Averages-															
Top Ten Percent	6674	3888	4031	5539	6561	8692	11464	11328	10775	11375	11921	11834	11679	9953	9049
Middle Eighty Percent	5040	2983	3640	4263	4374	4316	5708	5791	5800	7241	8081	8916	9886	7173	5955
Bottom Ten Percent	3134	1400	2513	3271	3021	2253	896	1196	2104	1852	2355	3217	3848	3493	2520

Table A-30: Regional Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2011 - 2012 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Regional Surplus/Deficit	4495	2003	2974	3837	3394	2203	657	1153	1911	1983	3614	1540	6897	3558	2841
1930 Regional Surplus/Deficit	3033	1160	2487	3444	2720	1991	812	1085	1503	2218	5607	813	3960	3149	2325
1931 Regional Surplus/Deficit	1626	1126	2157	3109	3162	2139	918	962	1242	2959	157	1478	3531	3194	2069
1932 Regional Surplus/Deficit	3425	1812	2954	2369	2187	1808	215	193	3200	6404	11211	10782	11607	5273	4332
1933 Regional Surplus/Deficit	3144	2495	3121	3612	3162	3807	8164	5114	2161	6448	6755	8082	11757	10296	5723
1934 Regional Surplus/Deficit	7419	5062	4340	5609	7466	10909	10927	11077	8831	11783	11112	8583	9492	4663	8281
1935 Regional Surplus/Deficit	2195	1222	2720	3464	3022	2896	6999	8037	1587	3867	6008	7366	8477	7018	4835
1936 Regional Surplus/Deficit	5504	2465	2406	3308	2735	1801	-544	1465	1762	3637	9555	8767	11479	3831	3956
1937 Regional Surplus/Deficit	3838	1907	1878	3278	3102	2068	998	340	753	864	419	2908	5072	2552	2208
1938 Regional Surplus/Deficit	4270	2341	2647	3434	3374	3621	7486	3616	5538	8056	12227	11264	10408	6123	5915
1939 Regional Surplus/Deficit	3010	1458	3264	3710	2908	2018	1372	1212	3222	5157	8849	8986	7144	3301	3864
1940 Regional Surplus/Deficit	1931	818	1875	3685	3244	3579	995	2351	6344	7904	8571	5587	7924	1898	3916
1941 Regional Surplus/Deficit	1387	867	2527	3233	3172	2238	529	1281	3710	2538	3329	2039	4115	2952	2486
1942 Regional Surplus/Deficit	2813	1853	3634	2643	3157	4175	2917	3902	1328	3084	7025	5649	11316	7706	4472
1943 Regional Surplus/Deficit	5377	3085	3334	3615	2974	3265	5900	6558	6669	12877	12223	10568	11899	8743	6678
1944 Regional Surplus/Deficit	4846	2274	1763	3614	3271	2332	783	1323	2189	2092	3662	551	3046	1615	2240
1945 Regional Surplus/Deficit	2698	1556	3212	2368	1922	1574	644	212	1148	833	-872	6724	9281	2996	2684
1946 Regional Surplus/Deficit	3256	1532	2244	3159	4055	3929	5443	2870	7840	9746	12110	11375	11045	7928	6105
1947 Regional Surplus/Deficit	4613	2894	3393	3546	4109	8094	7810	8546	8834	8810	9174	9123	11518	7726	7111
1948 Regional Surplus/Deficit	4025	2478	3116	8027	7638	5189	10115	3728	5158	6650	10642	12000	12116	10228	7448
1949 Regional Surplus/Deficit	7041	5323	4226	4539	3749	3399	1213	4537	8261	9448	12020	11271	11541	3069	6049
1950 Regional Surplus/Deficit	3027	963	1803	3547	3667	3418	6625	8049	10780	11059	10575	9611	11461	9821	6787
1951 Regional Surplus/Deficit	5916	4437	3695	6172	7167	9656	11374	12015	10506	12547	12139	10923	11032	10266	9183
1952 Regional Surplus/Deficit	6701	3323	3416	7069	5624	5507	9399	5982	3544	10740	12244	12049	12030	6763	7318
1953 Regional Surplus/Deficit	4444	2670	2488	3450	2669	2143	3090	7884	4017	2553	6514	9636	12032	10512	5486
1954 Regional Surplus/Deficit	5095	3117	3244	4508	4296	4993	6630	9514	5281	8607	8580	10354	11360	10434	6927
1955 Regional Surplus/Deficit	9576	8604	7291	4675	5744	4392	2316	1918	2500	3765	4866	5362	11663	10338	5805
1956 Regional Surplus/Deficit	7415	4566	3193	5483	7194	8821	11663	9034	10067	11435	12068	11551	11970	10502	8935
1957 Regional Surplus/Deficit	5449	4113	3526	5058	3571	4664	4177	4000	7417	9069	8782	11831	11844	5007	6235
1958 Regional Surplus/Deficit	3723	1509	2821	3615	3424	2853	3892	7759	5267	7356	9976	11731	11779	4812	5746
1959 Regional Surplus/Deficit	3616	2182	2584	4170	5301	7016	10890	9312	4499	10683	8654	9498	11300	7036	6998
1960 Regional Surplus/Deficit	5697	3759	7642	9068	9401	7549	7388	5835	6202	12446	10291	7944	11351	6741	7922
1961 Regional Surplus/Deficit	4664	1900	3242	3834	3827	2482	6836	6015	7187	10056	6104	9767	11120	5710	5937
1962 Regional Surplus/Deficit	4023	3111	2347	3055	3589	3941	4710	5070	2653	8028	12154	9057	11386	4183	5287
1963 Regional Surplus/Deficit	4052	2227	2264	5083	5659	6612	6266	7366	2072	5124	5840	7070	11697	6977	5792
1964 Regional Surplus/Deficit	5085	2909	3179	3365	3824	3377	3637	4761	2170	5735	3945	8236	12237	10359	5325
1965 Regional Surplus/Deficit	7325	3383	4876	5488	4980	8683	11536	11915	8640	8530	12240	10936	11705	6692	8413
1966 Regional Surplus/Deficit	6184	4611	3937	4716	3629	3001	5780	3197	1626	11709	7622	7443	9487	7158	5416
1967 Regional Surplus/Deficit	4964	2737	2719	3436	3169	3937	10524	9877	4433	6186	3194	8017	12024	9770	6356
1968 Regional Surplus/Deficit	6134	3228	3366	4542	3787	3649	7614	7673	6323	2608	4288	5396	11480	8755	5883
1969 Regional Surplus/Deficit	5963	4320	6166	6062	7159	5648	11196	8806	5811	12637	12026	11890	11710	8368	8342
1970 Regional Surplus/Deficit	3710	1917	2973	4458	3840	2183	2996	6742	4877	5349	5109	7480	12083	5712	5094
1971 Regional Surplus/Deficit	3605	1402	2259	3531	3530	3660	11004	11693	9210	10842	11137	11809	12108	11018	7757
1972 Regional Surplus/Deficit	7958	4930	4046	4957	4279	3949	10867	10840	12468	12766	10522	11726	12143	10543	8649
1973 Regional Surplus/Deficit	9269	7020	4643	4546	3799	5085	4062	2161	2335	883	3853	4515	5493	3512	4232
1974 Regional Surplus/Deficit	1799	575	2176	3347	2688	6812	11820	12077	12132	12576	12043	11107	12014	10675	8181
1975 Regional Surplus/Deficit	7294	5280	3767	3236	3453	2710	5830	5189	6768	3745	6165	10269	12110	10915	6296
1976 Regional Surplus/Deficit	4410	4295	4316	6256	7496	11284	11472	10380	6921	12097	11359	11529	11970	10373	9000
1977 Regional Surplus/Deficit	10068	10051	8881	4402	3492	2274	687	1583	1867	1251	1655	-340	1815	1681	3155
1978 Regional Surplus/Deficit	3186	2169	2879	1438	2138	4822	4193	4014	4755	10461	7872	9220	9545	7211	5168
1979 Regional Surplus/Deficit	3853	3141	6026	4497	3638	2429	1411	4315	6689	5015	4827	8322	6071	2886	4552
1980 Regional Surplus/Deficit	1377	762	2008	3199	3082	3644	707	3430	2409	4799	9540	11210	11638	4639	4506
1981 Regional Surplus/Deficit	3134	1428	3132	3521	4114	8418	10694	4932	5688	2812	5563	6425	11546	9669	6227
1982 Regional Surplus/Deficit	7450	5680	3413	4178	4399	3893	7779	11884	11259	10292	8922	10943	11753	9056	7876
1983 Regional Surplus/Deficit	7489	4260	5671	5975	4946	5096	9699	6631	12203	9251	9689	9413	11441	10744	8102
1984 Regional Surplus/Deficit	7602	4507	4472	4415	8344	4180	11494	4961	10603	10936	10798	7053	12099	9472	7834
1985 Regional Surplus/Deficit	5529	2702	3890	4355	5269	3239	4032	1637	5294	9479	9806	9571	8184	2451	5138
1986 Regional Surplus/Deficit	951	572	2775	4295	5997	1550	7067	7969	12283	12108	9938	6321	10267	5509	6295
1987 Regional Surplus/Deficit	3901	1866	2420	3331	4822	3096	1129	2860	3910	5860	5500	5454	7766	3096	3859
1988 Regional Surplus/Deficit	1865	633	1903	2698	2607	1446	-29	762	1551	2366	4855	4073	2973	3808	2221
1989 Regional Surplus/Deficit	3555	1886	2335	2417	2847	2906	565	2353	4678	9536	10977	8417	8241	3608	4269
1990 Regional Surplus/Deficit	1327	1189	2379	3204	3937	5641	8421	6176	4881	9750	11220	7598	11214	6124	5930
1991 Regional Surplus/Deficit	4724	3623	2169	2994	7496	5741	9565	9759	3631	8485	7294	9508	10701	10110	6961
1992 Regional Surplus/Deficit	7236	4130	2849	2980	3147	1719	1485	1289	5636	3716	4274	3041	4041	2539	3203

Table A-30: Regional Surplus/Deficit - By Water Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Regional Surplus/Deficit</i>	930	693	1437	2783	2656	2128	616	1440	2621	4429	4055	7505	5968	4627	3073
<i>1994 Regional Surplus/Deficit</i>	3521	2690	1709	2858	3532	2543	769	2676	2154	2275	7949	4047	5062	3318	3066
<i>1995 Regional Surplus/Deficit</i>	1562	767	1700	2613	2558	3040	2767	7039	8139	8010	4999	7393	10223	6660	4968
<i>1996 Regional Surplus/Deficit</i>	4110	2241	2862	4924	9592	11313	11563	12083	12115	11708	12359	11194	11747	10431	9406
<i>1997 Regional Surplus/Deficit</i>	6956	3098	3573	4364	4046	5516	11817	12164	12406	11308	12068	11387	12058	10773	8720
<i>1998 Regional Surplus/Deficit</i>	7193	4438	6225	9108	6172	3595	7309	6741	6081	6484	6271	7866	11956	6933	7005
-Ranked Averages-															
Top Ten Percent	6299	3850	3794	5378	6394	8460	11470	11204	10446	11484	11822	11321	11804	9940	8901
Middle Eighty Percent	4664	2944	3401	4098	4204	4041	5477	5481	5438	7367	8147	8393	10249	6719	5747
Bottom Ten Percent	2756	1360	2275	3106	2851	1970	665	852	1728	1981	2451	2655	4568	2895	2319

Table A-30: Regional Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2012 - 2013 Operating Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Regional Surplus/Deficit	3868	1506	2443	3297	2858	1567	644	619	1162	1649	3323	1054	5261	3118	2266
1930 Regional Surplus/Deficit	2397	661	1955	2905	2185	1355	351	583	1241	1884	5317	328	2326	2710	1755
1931 Regional Surplus/Deficit	986	629	1625	2570	2627	1504	456	463	979	2626	-140	994	1898	2757	1498
1932 Regional Surplus/Deficit	2794	1318	2426	1829	1651	1173	-248	-308	2935	6071	10801	9939	11991	4834	3901
1933 Regional Surplus/Deficit	2508	2002	2594	3072	2624	3173	7688	4619	1898	6118	6466	7031	12139	10268	5303
1934 Regional Surplus/Deficit	6803	4580	3813	5071	6922	10995	10949	11133	8510	11550	10747	7615	7545	4350	7786
1935 Regional Surplus/Deficit	1557	724	2190	2925	2484	2261	6534	7522	1325	3534	5719	6766	6845	6584	4242
1936 Regional Surplus/Deficit	4883	1970	1875	2769	2199	1166	-1008	966	1500	3303	9264	8287	10001	3393	3402
1937 Regional Surplus/Deficit	3207	1412	1345	2739	2568	1433	537	-160	491	528	122	2425	3436	2111	1639
1938 Regional Surplus/Deficit	3639	1847	2117	2895	2838	2986	7019	3117	5277	7726	11875	10134	8778	5686	5291
1939 Regional Surplus/Deficit	2373	960	2736	3171	2372	1382	910	711	2960	4825	8562	8297	5514	2862	3280
1940 Regional Surplus/Deficit	1291	319	1342	3146	2709	2946	532	1849	6083	7575	8283	5108	6296	1457	3348
1941 Regional Surplus/Deficit	748	370	1997	2693	2636	1603	534	751	2957	2205	3038	1556	2480	2513	1912
1942 Regional Surplus/Deficit	2180	1359	3107	2102	2620	3539	2456	3404	1065	2750	6734	5169	9688	7271	3902
1943 Regional Surplus/Deficit	4754	2595	2805	3076	2436	2628	5430	6049	6386	12639	12255	9571	12292	8304	6243
1944 Regional Surplus/Deficit	4217	1776	1226	3074	2735	1696	743	793	1896	1734	2659	36	1409	1173	1666
1945 Regional Surplus/Deficit	2063	1060	2683	1828	1385	939	181	-290	885	498	-1170	6244	7649	2554	2117
1946 Regional Surplus/Deficit	2621	1035	1711	2619	3519	3294	4979	2369	7527	9365	12137	10227	9416	7493	5491
1947 Regional Surplus/Deficit	3987	2401	2863	3005	3571	7461	7343	8039	8512	8481	8887	8646	10307	7277	6563
1948 Regional Surplus/Deficit	3396	1982	2586	7492	7100	4556	9639	3227	4898	6320	10292	10935	12511	9545	6979
1949 Regional Surplus/Deficit	6422	4839	3698	4000	3212	2764	751	4030	7938	9114	11801	10747	10158	2628	5495
1950 Regional Surplus/Deficit	2389	462	1267	3007	3130	2783	6157	7542	10450	10678	10288	8679	11853	9385	6330
1951 Regional Surplus/Deficit	5290	3947	3166	5634	6629	9026	11387	12062	9040	12315	11879	9765	9403	9597	8512
1952 Regional Surplus/Deficit	6082	2830	2885	6532	5089	4873	8923	5474	3283	10335	11949	10832	10799	6327	6715
1953 Regional Surplus/Deficit	3816	2175	1955	2910	2133	1508	2627	7377	3756	2219	6224	8959	12420	9983	5048
1954 Regional Surplus/Deficit	4468	2623	2714	3969	3760	4360	6162	8998	5020	8277	8290	9239	11748	10406	6493
1955 Regional Surplus/Deficit	8720	8107	6753	4136	5210	3759	1855	1419	2240	3432	4576	4882	12049	10310	5434
1956 Regional Surplus/Deficit	6796	4080	2661	4945	6654	8189	11674	7612	9701	10927	12098	10399	12358	10047	8437
1957 Regional Surplus/Deficit	4824	3622	2996	4518	3034	4030	3718	3501	7103	8710	8493	11213	12240	4568	5819
1958 Regional Surplus/Deficit	3089	1011	2290	3075	2888	2217	3432	7252	5008	7027	9677	11098	11525	4374	5267
1959 Regional Surplus/Deficit	2982	1687	2052	3631	4765	6384	10860	7694	4237	10304	8323	8383	11693	6598	6479
1960 Regional Surplus/Deficit	5074	3269	7105	8532	8859	6918	6922	5338	5943	12212	9865	7337	10402	6305	7399
1961 Regional Surplus/Deficit	4033	1402	2713	3295	3290	1848	6370	5506	6899	9678	5815	8689	11515	5274	5475
1962 Regional Surplus/Deficit	3393	2620	1815	2515	3053	3307	4251	4572	2392	7696	12177	8345	10336	3744	4757
1963 Regional Surplus/Deficit	3419	1733	1732	4544	5124	5980	5798	6858	1809	4792	5550	6589	10069	6542	5214
1964 Regional Surplus/Deficit	4461	2416	2649	2825	3287	2743	3177	4265	1909	5401	3652	7728	12596	10335	4951
1965 Regional Surplus/Deficit	6708	2893	4350	4951	4445	8051	11548	11184	7816	8038	12266	9796	10633	6254	7803
1966 Regional Surplus/Deficit	5562	4126	3407	4177	3093	2367	5312	2699	1363	11332	7334	6937	7859	6723	4847
1967 Regional Surplus/Deficit	4339	2242	2187	2897	2632	3302	9885	9363	4171	5855	2902	7534	12407	9084	5902
1968 Regional Surplus/Deficit	5514	2737	2838	4002	3250	3014	7148	7165	6063	2274	3999	4917	10263	8068	5318
1969 Regional Surplus/Deficit	5342	3833	5633	5525	6625	5015	11209	7262	5548	12366	12050	10704	10337	7827	7697
1970 Regional Surplus/Deficit	3081	1420	2442	3919	3305	1548	2532	6235	4617	5018	4819	7001	11723	5274	4621
1971 Regional Surplus/Deficit	2970	904	1726	2991	2994	3024	10526	11141	8890	10461	10781	10651	12492	10995	7302
1972 Regional Surplus/Deficit	7338	4447	3518	4418	3741	3315	10391	10324	12367	12528	10236	10590	12515	10515	8230
1973 Regional Surplus/Deficit	8482	6544	4115	4006	3262	4451	3601	1660	2073	549	3563	4035	3860	3073	3659
1974 Regional Surplus/Deficit	1159	75	1642	2808	2148	6179	11839	12140	11702	12342	12072	10003	12401	10645	7831
1975 Regional Surplus/Deficit	6675	4798	3238	2696	2917	2075	5360	4692	6508	3412	5876	9225	12495	10892	5880
1976 Regional Surplus/Deficit	3779	3804	3788	5717	6954	10654	11484	9270	6626	11711	11057	10360	10990	10345	8442
1977 Regional Surplus/Deficit	9055	9256	8350	3863	2956	1638	656	1049	1569	891	600	-825	179	1241	2555
1978 Regional Surplus/Deficit	2555	1677	2349	897	1600	4186	3732	3514	4493	10083	7584	8533	7914	6773	4579
1979 Regional Surplus/Deficit	3223	2648	5484	3958	3102	1794	949	3817	6421	4685	4535	7843	4436	2446	3979
1980 Regional Surplus/Deficit	737	263	1475	2661	2546	3010	710	2414	2147	4467	9253	10497	10008	4200	3917
1981 Regional Surplus/Deficit	2499	930	2602	2981	3579	7788	9896	4694	5429	2479	5273	5945	11936	8805	5780
1982 Regional Surplus/Deficit	6760	5202	2884	3639	3864	3258	7313	11297	10889	9911	8634	9791	12132	8618	7381
1983 Regional Surplus/Deficit	6872	3774	5127	5436	4410	4461	9221	6122	11508	8870	9403	8936	9799	10370	7498
1984 Regional Surplus/Deficit	6984	4020	3944	3875	7800	3545	11009	4460	10232	10557	10469	6572	11739	9037	7359
1985 Regional Surplus/Deficit	4904	2206	3361	3815	4733	2604	3572	1600	4612	9097	9508	9094	6551	2010	4573
1986 Regional Surplus/Deficit	308	70	2240	3756	5462	914	6598	7432	12194	11705	9650	5840	8636	5073	5725
1987 Regional Surplus/Deficit	3272	1370	1886	2791	4286	2461	964	2012	3648	5531	5210	4974	6097	2657	3285
1988 Regional Surplus/Deficit	1225	132	1369	2159	2072	819	-492	261	1288	2032	4563	3585	1337	3370	1651
1989 Regional Surplus/Deficit	2924	1392	1804	1877	2310	2272	335	1584	4415	9154	10681	7767	6609	3168	3683
1990 Regional Surplus/Deficit	685	689	1847	2664	3401	5009	7940	5681	4620	9424	11012	6847	10643	5687	5423
1991 Regional Surplus/Deficit	4099	3132	1636	2454	6962	5109	8954	9244	3370	8157	7007	8649	9073	10085	6371
1992 Regional Surplus/Deficit	6545	3645	2318	2441	2610	1082	1024	968	5376	3219	3961	2546	2409	2099	2638

Table A-30: Regional Surplus/Deficit - By Water Year
 PNW Loads and Resource Study
 2012 - 2013 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Regional Surplus/Deficit</i>	289	194	902	2243	2121	1486	154	940	2357	4093	3747	7024	4332	4187	2501
<i>1994 Regional Surplus/Deficit</i>	2889	2195	1173	2318	2997	1909	378	2172	1887	1937	7533	3566	3430	2879	2494
<i>1995 Regional Surplus/Deficit</i>	922	268	1166	2074	2021	2406	2306	6529	7817	7681	4709	6913	8590	6222	4383
<i>1996 Regional Surplus/Deficit</i>	3477	1745	2332	4385	9050	11390	11574	12130	11856	11218	12390	10063	11527	10407	9071
<i>1997 Regional Surplus/Deficit</i>	6339	2608	3044	3824	3509	4882	11832	12218	11857	10928	12100	10255	12429	10745	8353
<i>1998 Regional Surplus/Deficit</i>	6574	3951	5682	8573	5637	2961	6841	6233	5821	6154	5981	7384	12340	6496	6599
-Ranked Averages-															
Top Ten Percent	4883	2958	2879	4533	5527	7662	11454	10822	10450	11710	11690	10205	11660	10329	8411
Middle Eighty Percent	4118	2496	2918	3597	3708	3452	5063	4934	5069	6950	7864	7682	9409	6240	5225
Bottom Ten Percent	2121	863	1743	2567	2315	1336	330	343	1391	1644	2056	2167	2933	2455	1748

Table A-30: Regional Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2013 - 2014 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Regional Surplus/Deficit	3712	1066	2167	2942	2457	1350	-366	-180	183	1369	2838	817	5873	2562	1858
1930 Regional Surplus/Deficit	2238	221	1679	2550	1786	1122	-491	-227	252	1595	4558	92	2940	2154	1346
1931 Regional Surplus/Deficit	827	189	1348	2215	2228	1118	-373	-336	1.3	2347	-630	759	2513	2203	1091
1932 Regional Surplus/Deficit	2638	880	2150	1474	1250	1007	-1095	-1356	1955	5791	10397	9881	11922	4279	3454
1933 Regional Surplus/Deficit	2350	1564	2318	2718	2222	2787	6866	3823	919	5843	5983	6974	12053	10197	4895
1934 Regional Surplus/Deficit	6606	4146	3537	4717	6525	11079	10953	10631	7465	11798	10412	7581	8309	3675	7553
1935 Regional Surplus/Deficit	1397	285	1914	2571	2081	1874	5711	6729	347	3255	5236	6615	7461	6033	3843
1936 Regional Surplus/Deficit	4730	1532	1598	2414	1799	1093	-1858	-196	521	3024	8780	8057	10698	2839	3000
1937 Regional Surplus/Deficit	3050	974	1068	2385	2168	1147	-300	-968	-496	46	-369	2191	4048	1554	1230
1938 Regional Surplus/Deficit	3483	1410	1841	2540	2436	2599	6196	2319	4301	7451	11472	10079	9396	5133	4904
1939 Regional Surplus/Deficit	2215	520	2460	2816	1972	1175	606	-136	1208	4547	8080	8146	6131	2306	2871
1940 Regional Surplus/Deficit	1132	-121	1065	2792	2310	2561	-298	1049	5107	7300	7801	4878	6916	901	2941
1941 Regional Surplus/Deficit	588	-69	1720	2338	2235	1216	317	-88	1331	1927	2554	1323	3092	1957	1498
1942 Regional Surplus/Deficit	2022	920	2831	1745	2219	3152	1627	2606	87	2470	6250	4938	10307	6720	3496
1943 Regional Surplus/Deficit	4600	2158	2529	2721	2034	2239	4603	5251	5409	13055	12244	9526	12211	7749	5843
1944 Regional Surplus/Deficit	4060	1336	947	2718	2334	1616	319	-63	864	1412	814	-199	2020	615	1252
1945 Regional Surplus/Deficit	1906	620	2408	1472	984	552	-650	-1092	-93	218	-1661	6013	8264	1997	1710
1946 Regional Surplus/Deficit	2463	595	1434	2263	3118	2908	4150	1569	6551	9091	11856	10170	10035	6941	5108
1947 Regional Surplus/Deficit	3831	1963	2587	2649	3170	7077	6518	7243	7539	8207	8405	8418	11004	6741	6166
1948 Regional Surplus/Deficit	3239	1543	2309	7140	6702	4171	8817	2427	3921	6044	9876	10893	12431	9071	6542
1949 Regional Surplus/Deficit	6269	4405	3422	3645	2811	2377	524	2535	6963	8840	11397	10527	10777	2071	5092
1950 Regional Surplus/Deficit	2230	21	989	2651	2728	2396	5332	6747	9477	10404	9806	8622	11773	8833	5882
1951 Regional Surplus/Deficit	5135	3510	2889	5279	6229	8643	11307	11063	6141	12117	11426	9711	10021	9131	8019
1952 Regional Surplus/Deficit	5929	2391	2608	6179	4689	4488	8102	4676	2306	10061	11479	10792	11418	5774	6328
1953 Regional Surplus/Deficit	3661	1737	1678	2556	1733	1140	1775	6582	2779	1940	5740	8809	12341	9509	4598
1954 Regional Surplus/Deficit	4313	2185	2438	3614	3359	3974	5337	8205	4044	8001	7807	9189	11670	10328	6087
1955 Regional Surplus/Deficit	8453	7626	6459	3782	4811	3375	1026	620	1264	3153	4091	4652	11967	10233	5004
1956 Regional Surplus/Deficit	6643	3645	2384	4591	6255	7806	11052	6223	8728	10654	12096	10342	12275	9573	7988
1957 Regional Surplus/Deficit	4668	3185	2720	4164	2633	3643	2891	2702	6128	8433	8011	11063	12160	4014	5363
1958 Regional Surplus/Deficit	2932	571	2013	2720	2488	1829	2604	6456	4032	6752	9194	10947	12093	3820	4864
1959 Regional Surplus/Deficit	2824	1248	1775	3277	4364	6000	10090	6899	3259	10032	7887	8324	11620	6044	6038
1960 Regional Surplus/Deficit	4919	2831	6811	8181	8463	6535	6098	4541	4968	12314	9461	7186	11022	5753	7020
1961 Regional Surplus/Deficit	3876	963	2437	2940	2889	1461	5546	4708	5925	9406	5332	8647	11437	4721	5029
1962 Regional Surplus/Deficit	3237	2183	1538	2160	2652	2921	3424	3774	1415	7418	11946	8208	11033	3188	4376
1963 Regional Surplus/Deficit	3261	1294	1455	4189	4724	5596	4974	6061	831	4515	5066	6358	10688	5989	4809
1964 Regional Surplus/Deficit	4306	1978	2373	2469	2886	2357	2349	3470	932	5121	3165	7533	12522	10164	4524
1965 Regional Surplus/Deficit	6555	2456	4075	4597	4046	7667	11180	9448	6841	7762	12258	9737	11252	5700	7400
1966 Regional Surplus/Deficit	5409	3690	3130	3822	2692	1981	4486	1901	383	11062	6852	6739	8478	6172	4445
1967 Regional Surplus/Deficit	4184	1804	1911	2542	2231	2917	9115	8571	3195	5579	2416	7313	12330	8610	5452
1968 Regional Surplus/Deficit	5362	2300	2562	3648	2849	2628	6324	6368	5088	1995	3515	4687	10899	7594	4922
1969 Regional Surplus/Deficit	5189	3398	5343	5171	6226	4631	10512	6338	4547	12095	11798	10657	10957	7353	7323
1970 Regional Surplus/Deficit	2926	981	2165	3564	2905	1161	1700	5439	3640	4741	4335	6771	12342	4719	4215
1971 Regional Surplus/Deficit	2812	464	1448	2635	2592	2637	9703	10347	7915	10186	10371	10596	12406	10914	6897
1972 Regional Surplus/Deficit	7136	4013	3242	4062	3340	2929	9569	9530	12307	13019	9755	10530	12448	10438	7932
1973 Regional Surplus/Deficit	8278	6112	3839	3651	2861	4065	2771	1567	1052	240	3010	3634	3989	2517	3243
1974 Regional Surplus/Deficit	1000	-366	1365	2453	1745	5795	11846	12163	10730	12495	12063	9935	12320	10567	7594
1975 Regional Surplus/Deficit	6522	4364	2962	2339	2516	1687	4532	3894	5532	3133	5393	9168	12411	10809	5472
1976 Regional Surplus/Deficit	3622	3366	3512	5363	6556	10273	11313	7007	5630	11435	10573	10308	11608	9936	8006
1977 Regional Surplus/Deficit	8788	8711	8058	3508	2555	1251	646	180	518	557	-1287	-1060	791	685	2136
1978 Regional Surplus/Deficit	2399	1239	2072	540	1198	3798	2903	2714	3516	9812	7102	8422	8531	6219	4183
1979 Regional Surplus/Deficit	3067	2210	5190	3605	2702	1408	677	2360	5446	4409	4050	7614	5049	1889	3568
1980 Regional Surplus/Deficit	577	-177	1198	2306	2146	2624	697	693	1169	4190	8772	10347	10626	3645	3516
1981 Regional Surplus/Deficit	2341	491	2325	2626	3178	7405	9207	3672	4455	2200	4788	5714	11853	8396	5324
1982 Regional Surplus/Deficit	6557	4769	2608	3284	3464	2872	6489	10503	9916	9636	8151	9735	12055	8064	6932
1983 Regional Surplus/Deficit	6720	3338	4831	5082	4010	4075	8398	5324	10536	8595	8922	8709	10414	9896	7099
1984 Regional Surplus/Deficit	6832	3584	3668	3519	7402	3158	10187	3660	9259	10283	9988	6340	12357	8485	6955
1985 Regional Surplus/Deficit	4750	1766	3085	3459	4331	2218	2745	1608	2878	8821	9026	8866	7166	1453	4164
1986 Regional Surplus/Deficit	146	-371	1962	3401	5064	528	5876	6624	11424	11461	9168	5609	9060	4519	5330
1987 Regional Surplus/Deficit	3116	931	1608	2435	3885	2074	953	236	2671	5257	4726	4743	6759	2102	2877
1988 Regional Surplus/Deficit	1066	-308	1092	1805	1672	1018	-1365	-581	319	1750	4033	2892	1947	2805	1246
1989 Regional Surplus/Deficit	2767	954	1528	1521	1856	1817	323	352	2934	8880	10200	7617	7226	2612	3268
1990 Regional Surplus/Deficit	524	249	1570	2309	3000	4625	7124	4886	3644	9152	10682	6727	11397	5134	5045
1991 Regional Surplus/Deficit	3944	2695	1358	2098	6564	4725	8183	8452	2393	7884	6526	8599	9693	9703	6001
1992 Regional Surplus/Deficit	6343	3210	2042	2086	2209	1194	154	974	3260	2749	3449	2297	3025	1544	2223

Table A-30: Regional Surplus/Deficit - By Water Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Regional Surplus/Deficit</i>	129	-245	624	1889	1720	1091	-676	141	1376	3813	3239	6793	4943	3632	2092
<i>1994 Regional Surplus/Deficit</i>	2732	1755	894	1963	2598	1523	-233	1356	895	1646	6654	3335	4046	2325	2087
<i>1995 Regional Surplus/Deficit</i>	763	-172	889	1719	1620	2019	1477	5730	6844	7407	4224	6684	9205	5668	3977
<i>1996 Regional Surplus/Deficit</i>	3319	1306	2057	4031	8653	11609	11567	12150	10820	10763	12386	10000	12060	10002	8877
<i>1997 Regional Surplus/Deficit</i>	6183	2171	2767	3469	3108	4497	11835	11525	10762	10655	12091	10194	12369	10672	8035
<i>1998 Regional Surplus/Deficit</i>	6420	3515	5386	8223	5238	2575	6015	5437	4846	5879	5498	7151	12268	5943	6136
-Ranked Averages-															
Top Ten Percent	4720	2521	2602	4178	5127	7364	11213	9951	9303	11591	11484	10146	11871	10046	8064
Middle Eighty Percent	3954	2055	2639	3242	3307	3099	4357	4081	4036	6697	7390	7525	9800	5748	4817
Bottom Ten Percent	1962	423	1466	2212	1915	1113	-363	-479	311	1328	1328	1867	3546	1898	1339

Table A-30: Regional Surplus/Deficit - By Water Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Regional Surplus/Deficit	2868	509	1561	2372	1871	910	-840	-336	-6	681	2469	535	4483	1999	1317
1930 Regional Surplus/Deficit	1391	-337	1073	1980	1200	764	-694	-405	35	881	3533	-191	1550	1591	803
1931 Regional Surplus/Deficit	-21	-368	743	1645	1641	681	-566	-516	-211	1636	-1499	477	1122	1640	549
1932 Regional Surplus/Deficit	1793	325	1546	903	664	284	-1266	-1512	1766	5102	10028	9599	11622	3717	3005
1933 Regional Surplus/Deficit	1503	1009	1714	2147	1636	2065	6696	3668	730	5154	5614	6691	12053	9749	4481
1934 Regional Surplus/Deficit	5810	3594	2933	4147	5939	10408	10862	10475	7276	11110	10042	7298	6919	3112	7028
1935 Regional Surplus/Deficit	549	-272	1309	2000	1495	1151	5541	6574	157	2567	4867	6333	6071	5470	3304
1936 Regional Surplus/Deficit	3888	976	993	1843	1213	444	-2032	-437	332	2336	8411	7774	9307	2277	2461
1937 Regional Surplus/Deficit	2205	418	462	1814	1582	791	-505	-1154	-716	-1271	-738	1908	2657	991	688
1938 Regional Surplus/Deficit	2638	854	1236	1970	1850	1876	6025	2163	4111	6762	11103	9796	8006	4571	4365
1939 Regional Surplus/Deficit	1368	-37	1856	2245	1385	452	514	-297	933	3859	7711	7864	4740	1743	2331
1940 Regional Surplus/Deficit	283	-679	459	2222	1723	1838	-468	893	4917	6612	7432	4596	5525	338	2402
1941 Regional Surplus/Deficit	-260	-626	1115	1767	1649	493	147	-244	1141	1238	2185	1041	1702	1394	959
1942 Regional Surplus/Deficit	1176	364	2227	1175	1633	2429	1457	2450	-102	1781	5881	4656	8917	6157	2957
1943 Regional Surplus/Deficit	3757	1604	1924	2150	1448	1517	4433	5095	5219	12367	12214	9243	12208	7187	5432
1944 Regional Surplus/Deficit	3215	778	339	2148	1748	927	112	-218	675	723	445	-482	630	53	712
1945 Regional Surplus/Deficit	1060	64	1803	902	398	-170	-820	-1248	-283	-471	-2031	5730	6874	1434	1171
1946 Regional Surplus/Deficit	1617	38	828	1693	2532	2185	3980	1413	6362	8402	11487	9887	8644	6379	4569
1947 Regional Surplus/Deficit	2987	1407	1982	2078	2584	6354	6348	7087	7349	7519	8036	8135	9613	6179	5627
1948 Regional Surplus/Deficit	2394	986	1704	6570	6116	3448	8647	2272	3732	5356	9507	10611	12418	8509	6116
1949 Regional Surplus/Deficit	5427	3852	2817	3074	2225	1655	432	2286	6774	8151	11028	10244	9387	1508	4553
1950 Regional Surplus/Deficit	1382	-537	382	2081	2142	1674	5162	6591	9287	9716	9437	8340	11768	8270	5457
1951 Regional Surplus/Deficit	4290	2956	2284	4709	5643	7921	11136	10907	5952	11428	11057	9428	8631	8568	7480
1952 Regional Surplus/Deficit	5087	1836	2003	5608	4103	3766	7931	4521	2117	9372	11110	10510	10027	5212	5789
1953 Regional Surplus/Deficit	2817	1180	1072	1985	1147	418	1605	6426	2589	1251	5371	8527	12327	8946	4172
1954 Regional Surplus/Deficit	3469	1629	1832	3044	2773	3252	5167	8050	3855	7312	7438	8907	11508	10309	5695
1955 Regional Surplus/Deficit	7728	7129	5858	3211	4225	2652	856	464	1074	2465	3722	4370	11961	10209	4632
1956 Regional Surplus/Deficit	5801	3092	1779	4020	5669	7083	10881	6067	8539	9966	12021	10060	12270	9011	7575
1957 Regional Surplus/Deficit	3824	2630	2114	3593	2047	2921	2720	2546	5938	7745	7642	10780	12156	3452	4938
1958 Regional Surplus/Deficit	2085	13	1408	2149	1902	1107	2433	6300	3843	6064	8825	10665	10832	3257	4336
1959 Regional Surplus/Deficit	1978	691	1169	2706	3778	5277	9920	6743	3070	9344	7518	8041	11110	5482	5572
1960 Regional Surplus/Deficit	4077	2277	6211	7610	7876	5812	5928	4386	4778	11626	9092	6904	9631	5190	6481
1961 Regional Surplus/Deficit	3031	406	1832	2369	2303	739	5376	4552	5735	8717	4963	8364	11318	4159	4595
1962 Regional Surplus/Deficit	2392	1628	932	1589	2066	2198	3254	3618	1225	6730	11577	7926	9642	2626	3837
1963 Regional Surplus/Deficit	2415	738	850	3619	4138	4873	4803	5906	641	3827	4697	6076	9298	5427	4270
1964 Regional Surplus/Deficit	3463	1422	1768	1899	2300	1635	2179	3314	742	4433	2795	7250	12501	9602	4097
1965 Regional Surplus/Deficit	5714	1901	3471	4027	3460	6944	11010	9292	6651	7073	11981	9455	9861	5137	6865
1966 Regional Surplus/Deficit	4566	3137	2524	3252	2106	1258	4316	1746	194	10374	6483	6457	7088	5610	3906
1967 Regional Surplus/Deficit	3342	1249	1305	1971	1645	2194	8944	8415	3005	4891	2047	7030	12322	8047	5027
1968 Regional Surplus/Deficit	4521	1745	1958	3077	2263	1906	6153	6212	4899	1307	3146	4405	9509	7031	4383
1969 Regional Surplus/Deficit	4348	2844	4740	4601	5640	3908	10342	6183	4357	11406	11429	10374	9566	6791	6785
1970 Regional Surplus/Deficit	2081	424	1560	2993	2318	601	1382	5251	3451	4052	3966	6489	10951	4157	3675
1971 Regional Surplus/Deficit	1966	-93	841	2065	2006	1915	9533	10191	7725	9498	10002	10314	12408	10871	6516
1972 Regional Surplus/Deficit	6346	3461	2638	3492	2754	2206	9399	9374	12118	12711	9386	10247	12428	10413	7569
1973 Regional Surplus/Deficit	7489	5562	3235	3081	2275	3343	2601	1524	855	-454	2629	3261	2598	1955	2707
1974 Regional Surplus/Deficit	152	-924	758	1882	1159	5072	11755	12121	10541	11807	11923	9652	12302	10547	7238
1975 Regional Surplus/Deficit	5680	3812	2358	1769	1930	964	4362	3738	5343	2444	5024	8885	12413	10781	5093
1976 Regional Surplus/Deficit	2776	2810	2907	4792	5970	9550	11143	6851	5440	10746	10204	10026	10218	9374	7467
1977 Regional Surplus/Deficit	8063	8278	7459	2937	1969	528	554	17	321	-137	-1779	-1343	-599	123	1608
1978 Regional Surplus/Deficit	1554	684	1467	337	624	2683	2732	2558	3326	9124	6732	8140	7141	5657	3643
1979 Regional Surplus/Deficit	2222	1654	4588	3034	2116	904	585	1829	5257	3721	3681	7332	3659	1327	3026
1980 Regional Surplus/Deficit	-271	-735	593	1736	1560	1902	605	447	979	3502	8402	10064	9236	3082	2976
1981 Regional Surplus/Deficit	1495	-67	1720	2056	2592	6682	9037	3516	4265	1511	4419	5432	11847	7833	4898
1982 Regional Surplus/Deficit	5768	4219	2004	2714	2878	2149	6318	10348	9727	8947	7782	9453	12036	7501	6509
1983 Regional Surplus/Deficit	5879	2785	4228	4511	3424	3353	8227	5168	10347	7907	8553	8427	9024	9333	6560
1984 Regional Surplus/Deficit	5990	3030	3063	2949	6816	2435	10017	3504	9069	9595	9619	6058	10967	7923	6416
1985 Regional Surplus/Deficit	3905	1209	2480	2888	3745	1495	2575	1565	2581	8133	8656	8584	5776	891	3625
1986 Regional Surplus/Deficit	-704	-930	1355	2830	4477	-195	5706	6468	11235	10772	8799	5327	7670	3957	4791
1987 Regional Surplus/Deficit	2272	374	1002	1864	3299	1351	861	-14	2482	4568	4357	4461	5369	1540	2337
1988 Regional Surplus/Deficit	218	-866	486	1234	1086	656	-1562	-763	102	1036	3623	2289	557	2243	701
1989 Regional Surplus/Deficit	1911	388	913	951	1270	1095	231	191	2661	8191	9831	7334	5835	2050	2726
1990 Regional Surplus/Deficit	-325	-309	964	1739	2414	3902	6954	4730	3455	8464	10313	6444	10006	4571	4506
1991 Regional Surplus/Deficit	3101	2141	753	1528	5978	4003	8013	8296	2204	7196	6157	8317	8302	9141	5463
1992 Regional Surplus/Deficit	5553	2658	1436	1516	1622	836	-47	931	2544	2061	3080	2015	1635	981	1679

Table A-30: Regional Surplus/Deficit - By Water Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Regional Surplus/Deficit</i>	-720	-802	18	1318	1134	707	-876	-48	1162	3101	2252	6510	3553	3069	1548
<i>1994 Regional Surplus/Deficit</i>	1886	1199	287	1393	2011	801	-403	1200	705	957	6285	3053	2656	1762	1548
<i>1995 Regional Surplus/Deficit</i>	-85	-729	283	1149	1034	1296	1306	5574	6654	6719	3854	6401	7815	5105	3438
<i>1996 Regional Surplus/Deficit</i>	2473	749	1452	3460	8067	11254	11475	12109	10631	10075	12529	9718	10779	9439	8415
<i>1997 Regional Surplus/Deficit</i>	5346	1617	2162	2899	2522	3774	11744	11260	10572	9967	12102	9911	12342	10174	7628
<i>1998 Regional Surplus/Deficit</i>	5578	2961	4784	7652	4652	1852	5845	5281	4656	5190	5129	6868	12208	5381	5707
-Ranked Averages-															
Top Ten Percent	3884	1966	1997	3608	4541	6694	11076	9813	9113	10957	11318	9863	11281	9647	7625
Middle Eighty Percent	3118	1503	2034	2678	2721	2396	4188	3917	3831	6009	7015	7241	8837	5226	4317
Bottom Ten Percent	1115	-134	860	1641	1329	592	-555	-650	106	539	788	1539	2156	1335	798

Table A-30: Regional Surplus/Deficit - By Water Year
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 [61] 2009 White Book - 30 Minute Wind (Final)

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Regional Surplus/Deficit	2554	339	1351	2242	1624	393	-876	-623	70	52	1564	864	5191	2123	1214
1930 Regional Surplus/Deficit	1076	-507	863	1851	952	165	-1001	-670	138	277	3283	138	2258	1715	703
1931 Regional Surplus/Deficit	-336	-538	532	1516	1394	161	-883	-779	-113	1030	-1905	806	1831	1764	449
1932 Regional Surplus/Deficit	1478	155	1336	774	417	50	-1605	-1799	1841	4473	9123	9928	11241	3840	2803
1933 Regional Surplus/Deficit	1188	838	1504	2018	1389	1831	6357	3380	805	4525	4709	7020	11371	9758	4254
1934 Regional Surplus/Deficit	5495	3424	2723	4017	5692	10122	10444	10188	7351	10481	9137	7627	7628	3236	6926
1935 Regional Surplus/Deficit	235	-443	1098	1871	1248	917	5202	6286	233	1938	3961	6662	6780	5594	3213
1936 Regional Surplus/Deficit	3573	806	783	1714	966	137	-2368	-639	407	1707	7506	8104	10016	2400	2353
1937 Regional Surplus/Deficit	1890	247	252	1685	1335	190	-810	-1411	-610	-1272	-1643	2237	3366	1114	586
1938 Regional Surplus/Deficit	2323	684	1026	1840	1603	1642	5686	1875	4187	6133	10197	10125	8714	4694	4259
1939 Regional Surplus/Deficit	1053	-207	1646	2116	1138	218	96	-579	1094	3230	6806	8193	5449	1867	2225
1940 Regional Surplus/Deficit	-31	-849	248	2092	1476	1604	-808	606	4993	5983	6526	4925	6234	462	2298
1941 Regional Surplus/Deficit	-574	-796	905	1638	1402	259	-193	-531	1217	609	1279	1370	2410	1518	856
1942 Regional Surplus/Deficit	861	194	2017	1045	1386	2195	1117	2163	-27	1152	4975	4985	9625	6281	2855
1943 Regional Surplus/Deficit	3442	1434	1713	2021	1200	1283	4094	4808	5295	11738	10969	9572	11529	7310	5204
1944 Regional Surplus/Deficit	2900	608	129	2018	1500	659	-191	-506	750	94	-461	-153	1338	176	610
1945 Regional Surplus/Deficit	745	-107	1593	773	151	-405	-1160	-1536	-207	-1100	-2936	6059	7582	1558	1064
1946 Regional Surplus/Deficit	1302	-132	618	1563	2285	1951	3641	1126	6437	7773	10581	10216	9353	6502	4460
1947 Regional Surplus/Deficit	2672	1237	1771	1949	2337	6120	6009	6799	7425	6890	7131	8464	10322	6302	5531
1948 Regional Surplus/Deficit	2079	816	1494	6440	5869	3214	8308	1984	3808	4727	8602	10940	11750	8632	5893
1949 Regional Surplus/Deficit	5112	3682	2607	2945	1977	1421	15	2092	6849	7522	10122	10573	10096	1632	4447
1950 Regional Surplus/Deficit	1067	-708	171	1952	1895	1440	4823	6303	9363	9087	8532	8669	11091	8394	5246
1951 Regional Surplus/Deficit	3976	2785	2074	4579	5396	7687	10797	10619	6027	10799	10152	9757	9339	8691	7389
1952 Regional Surplus/Deficit	4773	1665	1792	5479	3855	3532	7592	4233	2192	8743	10205	10839	10736	5335	5685
1953 Regional Surplus/Deficit	2502	1010	862	1856	899	184	1266	6138	2665	622	4465	8856	11659	9070	3965
1954 Regional Surplus/Deficit	3154	1459	1622	2914	2526	3018	4827	7762	3931	6683	6533	9236	10989	9889	5454
1955 Regional Surplus/Deficit	7413	6958	5648	3082	3977	2418	516	177	1150	1836	2817	4699	11285	9794	4361
1956 Regional Surplus/Deficit	5486	2922	1568	3891	5422	6849	10542	5780	8614	9337	10822	10389	11593	9134	7345
1957 Regional Surplus/Deficit	3510	2460	1904	3464	1799	2687	2381	2259	6014	7116	6736	11109	11478	3575	4718
1958 Regional Surplus/Deficit	1770	-157	1197	2020	1654	872	2094	6013	3918	5435	7920	10994	11411	3381	4230
1959 Regional Surplus/Deficit	1663	521	959	2577	3531	5043	9581	6456	3146	8715	6613	8370	10938	5605	5402
1960 Regional Surplus/Deficit	3762	2106	6001	7481	7629	5578	5588	4098	4854	10997	8187	7233	10340	5314	6375
1961 Regional Surplus/Deficit	2716	235	1622	2240	2056	504	5037	4265	5811	8088	4058	8693	10755	4282	4390
1962 Regional Surplus/Deficit	2078	1458	722	1460	1819	1964	2915	3331	1301	6101	10672	8255	10351	2749	3736
1963 Regional Surplus/Deficit	2100	568	639	3489	3890	4639	4464	5618	717	3198	3792	6405	10006	5550	4174
1964 Regional Surplus/Deficit	3148	1252	1558	1769	2053	1401	1840	3027	818	3804	1890	7579	11840	9725	3883
1965 Regional Surplus/Deficit	5400	1731	3261	3898	3213	6710	10670	9005	6727	6444	10984	9784	10570	5261	6768
1966 Regional Surplus/Deficit	4252	2967	2314	3122	1859	1024	3976	1458	269	9745	5578	6786	7797	5733	3800
1967 Regional Surplus/Deficit	3027	1078	1095	1842	1398	1960	8605	8128	3081	4262	1141	7360	11648	8171	4823
1968 Regional Surplus/Deficit	4207	1575	1748	2948	2016	1672	5814	5925	4975	678	2240	4734	10217	7155	4288
1969 Regional Surplus/Deficit	4033	2674	4530	4472	5393	3674	10003	5895	4433	10777	10524	10703	10275	6914	6683
1970 Regional Surplus/Deficit	1767	254	1350	2864	2071	205	1191	4996	3526	3423	3061	6818	11660	4280	3581
1971 Regional Surplus/Deficit	1651	-263	631	1936	1759	1681	9193	9904	7801	8869	9096	10643	11724	10475	6268
1972 Regional Surplus/Deficit	6032	3290	2427	3363	2506	1972	9060	9087	12193	11701	8480	10576	11766	9999	7301
1973 Regional Surplus/Deficit	7174	5392	3024	2951	2027	3108	2262	1124	938	-1078	1735	3681	3307	2078	2603
1974 Regional Surplus/Deficit	-163	-1095	548	1753	911	4838	11336	11719	10616	11178	10788	9981	11638	10128	6968
1975 Regional Surplus/Deficit	5365	3642	2147	1640	1683	730	4022	3451	5419	1815	4118	9214	11729	10370	4830
1976 Regional Surplus/Deficit	2461	2640	2697	4663	5722	9316	10803	6564	5516	10117	9299	10355	10927	9497	7366
1977 Regional Surplus/Deficit	7748	8108	7249	2808	1722	294	136	-263	404	-760	-2561	-1014	109	246	1503
1978 Regional Surplus/Deficit	1239	513	1257	-160	365	2841	2393	2270	3402	8495	5827	8469	7849	5780	3541
1979 Regional Surplus/Deficit	1907	1484	4378	2905	1869	451	168	1917	5332	3092	2775	7661	4368	1450	2927
1980 Regional Surplus/Deficit	-586	-905	383	1606	1313	1667	187	250	1055	2873	7497	10393	9944	3206	2870
1981 Regional Surplus/Deficit	1180	-237	1509	1927	2345	6448	8698	3229	4341	882	3513	5761	11172	7957	4681
1982 Regional Surplus/Deficit	5453	4049	1793	2584	2631	1915	5979	10060	9802	8318	6877	9782	11373	7625	6306
1983 Regional Surplus/Deficit	5564	2614	4018	4382	3177	3118	7888	4881	10423	7278	7648	8756	9732	9457	6456
1984 Regional Surplus/Deficit	5675	2860	2852	2820	6569	2201	9678	3217	9145	8966	8713	6387	11675	8046	6308
1985 Regional Surplus/Deficit	3591	1039	2269	2759	3498	1261	2235	1165	2765	7504	7751	8913	6484	1014	3519
1986 Regional Surplus/Deficit	-1019	-1100	1145	2701	4230	-429	5366	6181	11310	10143	7894	5656	8379	4080	4695
1987 Regional Surplus/Deficit	1957	204	791	1735	3052	1117	443	-207	2557	3939	3452	4790	6078	1663	2231
1988 Regional Surplus/Deficit	-97	-1037	276	1105	839	61	-1874	-1024	205	433	2759	2939	1266	2366	602
1989 Regional Surplus/Deficit	1596	218	702	822	1023	861	-187	-91	2820	7562	8925	7663	6544	2173	2620
1990 Regional Surplus/Deficit	-640	-479	753	1610	2167	3668	6615	4443	3530	7835	9408	6773	10715	4695	4407
1991 Regional Surplus/Deficit	2786	1971	542	1398	5731	3769	7674	8009	2279	6567	5252	8646	9011	9264	5370
1992 Regional Surplus/Deficit	5238	2487	1226	1386	1375	237	-355	531	3146	1432	2174	2344	2343	1105	1584

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Regional Surplus/Deficit</i>	-1035	-972	-192	1189	887	134	-1185	-302	1262	2495	1964	6839	4261	3192	1448
<i>1994 Regional Surplus/Deficit</i>	1571	1028	77	1264	1764	567	-742	913	781	328	5380	3382	3364	1885	1447
<i>1995 Regional Surplus/Deficit</i>	-400	-899	73	1019	787	1062	967	5287	6730	6089	2949	6730	8523	5229	3343
<i>1996 Regional Surplus/Deficit</i>	2159	579	1241	3331	7820	10652	11057	11707	10706	9446	11111	10047	11378	9563	8248
<i>1997 Regional Surplus/Deficit</i>	5031	1447	1952	2770	2275	3540	11326	11082	10648	9338	10817	10240	11687	10233	7407
<i>1998 Regional Surplus/Deficit</i>	5264	2791	4573	7523	4404	1618	5505	4994	4732	4561	4223	7197	11586	5504	5496
-Ranked Averages-															
Top Ten Percent	3569	1796	1787	3478	4293	6408	10703	9508	9189	10274	10210	10192	11190	9606	7432
Middle Eighty Percent	2803	1333	1824	2543	2473	2142	3847	3638	3922	5380	6116	7571	9118	5309	4178
Bottom Ten Percent	801	-304	650	1512	1082	156	-873	-922	197	10	54	1914	2864	1459	696

Table A-30: Regional Surplus/Deficit - By Water Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Regional Surplus/Deficit	2670	17	1180	1994	1264	337	-1593	-961	-415	134	1678	224	4242	1641	847
1930 Regional Surplus/Deficit	1192	-829	692	1603	592	191	-1446	-1030	-374	334	2742	-502	1309	1233	333
1931 Regional Surplus/Deficit	-220	-860	361	1268	1034	108	-1319	-1142	-619	1088	-2289	166	882	1282	79
1932 Regional Surplus/Deficit	1595	-167	1165	526	57	-289	-2018	-2137	1357	4555	9238	9288	11382	3359	2535
1933 Regional Surplus/Deficit	1304	517	1333	1770	1029	1491	5943	3042	321	4607	4823	6380	11813	9390	4011
1934 Regional Surplus/Deficit	5612	3102	2552	3769	5332	9834	10109	9849	6867	10562	9252	6987	6679	2754	6558
1935 Regional Surplus/Deficit	351	-764	928	1623	888	578	4788	5948	-251	2019	4076	6022	5831	5112	2834
1936 Regional Surplus/Deficit	3689	484	612	1466	606	-129	-2785	-1063	-77	1789	7621	7463	9067	1918	1991
1937 Regional Surplus/Deficit	2006	-74	81	1437	975	218	-1257	-1780	-1124	-1819	-1528	1597	2417	633	218
1938 Regional Surplus/Deficit	2439	362	855	1592	1243	1303	5272	1537	3703	6215	10312	9485	7765	4212	3895
1939 Regional Surplus/Deficit	1169	-529	1475	1868	778	-121	-239	-923	525	3312	6920	7553	4500	1385	1861
1940 Regional Surplus/Deficit	85	-1171	77	1844	1116	1265	-1221	267	4509	6064	6641	4285	5285	-20	1932
1941 Regional Surplus/Deficit	-458	-1118	734	1390	1042	-80	-606	-869	733	691	1394	730	1461	1036	489
1942 Regional Surplus/Deficit	978	-128	1846	797	1026	1856	704	1824	-511	1234	5090	4345	8676	5799	2487
1943 Regional Surplus/Deficit	3558	1112	1542	1773	840	944	3680	4470	4811	11819	11423	8932	11968	6828	4962
1944 Regional Surplus/Deficit	3016	286	-42	1770	1140	354	-640	-844	266	176	-346	-793	389	-306	242
1945 Regional Surplus/Deficit	862	-428	1422	524	-209	-744	-1573	-1874	-691	-1018	-2821	5419	6633	1076	701
1946 Regional Surplus/Deficit	1418	-454	447	1315	1925	1612	3227	788	5953	7855	10696	9576	8404	6020	4099
1947 Regional Surplus/Deficit	2789	915	1601	1701	1977	5781	5595	6461	6941	6972	7245	7824	9373	5820	5158
1948 Regional Surplus/Deficit	2195	494	1323	6192	5509	2875	7894	1646	3323	4809	8716	10300	12178	8150	5647
1949 Regional Surplus/Deficit	5228	3360	2436	2697	1617	1081	-320	1660	6365	7604	10237	9933	9147	1150	4083
1950 Regional Surplus/Deficit	1183	-1029	0.6	1703	1535	1100	4409	5965	8879	9169	8647	8029	11528	7912	4987
1951 Regional Surplus/Deficit	4092	2464	1903	4331	5036	7347	10384	10281	5543	10881	10266	9117	8390	8210	7010
1952 Regional Surplus/Deficit	4889	1344	1621	5231	3495	3193	7179	3895	1708	8825	10319	10199	9787	4853	5319
1953 Regional Surplus/Deficit	2618	688	691	1608	539	-156	852	5800	2181	704	4580	8216	12086	8588	3702
1954 Regional Surplus/Deficit	3270	1137	1451	2666	2166	2678	4414	7424	3446	6765	6647	8596	11268	9950	5225
1955 Regional Surplus/Deficit	7529	6637	5477	2834	3617	2079	103	-162	666	1917	2931	4059	11720	9851	4162
1956 Regional Surplus/Deficit	5603	2600	1398	3643	5062	6510	10129	5441	8130	9418	11230	9749	12030	8652	7105
1957 Regional Surplus/Deficit	3626	2138	1733	3216	1439	2347	1967	1920	5530	7197	6851	10469	11916	3093	4468
1958 Regional Surplus/Deficit	1887	-479	1026	1772	1294	533	1681	5675	3434	5517	8035	10354	10591	2899	3866
1959 Regional Surplus/Deficit	1779	199	788	2329	3171	4704	9167	6118	2661	8796	6728	7730	10870	5124	5102
1960 Regional Surplus/Deficit	3878	1785	5830	7233	7269	5239	5175	3760	4369	11079	8301	6593	9391	4832	6012
1961 Regional Surplus/Deficit	2832	-86	1451	1992	1696	165	4623	3927	5327	8170	4172	8053	11078	3800	4125
1962 Regional Surplus/Deficit	2194	1136	551	1212	1459	1625	2501	2993	816	6183	10786	7615	9402	2267	3367
1963 Regional Surplus/Deficit	2216	246	468	3241	3530	4300	4051	5280	233	3280	3906	5765	9058	5069	3800
1964 Regional Surplus/Deficit	3265	930	1387	1521	1693	1061	1426	2688	334	3886	2005	6939	12261	9243	3627
1965 Regional Surplus/Deficit	5516	1409	3090	3650	2853	6371	10257	8666	6243	6526	11190	9144	9621	4779	6395
1966 Regional Surplus/Deficit	4368	2645	2143	2874	1499	685	3563	1120	-215	9827	5692	6146	6848	5252	3436
1967 Regional Surplus/Deficit	3143	757	924	1594	1038	1621	8192	7789	2597	4343	1256	6719	12082	7689	4557
1968 Regional Surplus/Deficit	4323	1253	1577	2700	1656	1332	5401	5586	4490	760	2355	4094	9268	6673	3913
1969 Regional Surplus/Deficit	4149	2352	4359	4223	5033	3335	9589	5557	3949	10859	10638	10063	9326	6432	6315
1970 Regional Surplus/Deficit	1883	-68	1179	2616	1711	28	629	4625	3042	3505	3175	6178	10711	3798	3205
1971 Regional Surplus/Deficit	1767	-585	460	1687	1399	1341	8780	9566	7317	8951	9211	10003	12167	10513	6046
1972 Regional Surplus/Deficit	6148	2969	2257	3115	2146	1633	8646	8748	11709	12164	8595	9936	12188	10055	7099
1973 Regional Surplus/Deficit	7290	5070	2854	2703	1667	2769	1848	899	447	-1001	1839	2950	2358	1596	2237
1974 Regional Surplus/Deficit	-47	-1416	377	1505	551	4499	11002	11495	10132	11259	11133	9341	12062	10189	6768
1975 Regional Surplus/Deficit	5481	3320	1977	1391	1323	391	3609	3113	4934	1897	4233	8574	12172	10422	4623
1976 Regional Surplus/Deficit	2577	2318	2526	4415	5362	8977	10390	6225	5032	10199	9414	9715	9978	9015	6998
1977 Regional Surplus/Deficit	7864	7786	7078	2560	1362	-45	-199	-609	-88	-684	-2569	-1654	-839	-236	1138
1978 Regional Surplus/Deficit	1355	192	1086	-41	17	2110	1980	1932	2918	8577	5942	7828	6900	5299	3173
1979 Regional Surplus/Deficit	2024	1162	4207	2657	1509	331	-168	1204	4848	3173	2890	7021	3419	969	2556
1980 Regional Surplus/Deficit	-470	-1227	212	1358	953	1328	-148	-178	571	2954	7612	9753	8995	2724	2506
1981 Regional Surplus/Deficit	1296	-559	1339	1679	1985	6109	8284	2890	3856	964	3628	5121	11607	7475	4428
1982 Regional Surplus/Deficit	5569	3727	1623	2336	2271	1576	5566	9722	9318	8400	6992	9141	11796	7143	6039
1983 Regional Surplus/Deficit	5680	2293	3847	4134	2817	2779	7475	4543	9938	7359	7762	8116	8783	8975	6090
1984 Regional Surplus/Deficit	5792	2538	2682	2571	6209	1862	9264	2878	8661	9048	8828	5747	10727	7564	5946
1985 Regional Surplus/Deficit	3707	717	2099	2511	3138	922	1822	940	2173	7586	7866	8273	5536	532	3155
1986 Regional Surplus/Deficit	-902	-1422	974	2453	3870	-768	4953	5843	10826	10225	8009	5016	7430	3599	4321
1987 Regional Surplus/Deficit	2073	-118	621	1487	2692	778	108	-640	2073	4021	3566	4150	5129	1181	1867
1988 Regional Surplus/Deficit	19	-1358	105	857	479	83	-2315	-1389	-307	489	2833	1978	317	1885	231
1989 Regional Surplus/Deficit	1712	-104	532	574	663	521	-522	-435	2252	7644	9040	7023	5595	1691	2256
1990 Regional Surplus/Deficit	-524	-801	583	1361	1807	3329	6201	4104	3046	7916	9522	6133	9766	4213	4036
1991 Regional Surplus/Deficit	2902	1649	371	1150	5371	3429	7260	7671	1795	6648	5366	8006	8062	8782	4993
1992 Regional Surplus/Deficit	5354	2166	1055	1138	1015	263	-800	306	2136	1514	2289	1704	1394	623	1209

Table A-30: Regional Surplus/Deficit - By Water Year
 PNW Loads and Resource Study
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Regional Surplus/Deficit</i>	-918	-1294	-363	941	527	134	-1629	-674	753	2554	1461	6199	3312	2711	1078
<i>1994 Regional Surplus/Deficit</i>	1688	707	-94	1015	1404	227	-1156	574	297	410	5494	2742	2415	1404	1078
<i>1995 Regional Surplus/Deficit</i>	-284	-1221	-98	771	427	723	554	4948	6246	6171	3064	6090	7574	4747	2968
<i>1996 Regional Surplus/Deficit</i>	2275	257	1071	3083	7460	10681	10722	11484	10222	9528	11739	9407	10538	9081	7945
<i>1997 Regional Surplus/Deficit</i>	5147	1125	1781	2522	1915	3201	10991	10635	10164	9420	11311	9600	12101	9816	7158
<i>1998 Regional Surplus/Deficit</i>	5380	2469	4403	7275	4044	1279	5092	4656	4248	4643	4338	6557	11967	5022	5237
-Ranked Averages-															
Top Ten Percent	3685	1474	1616	3230	3933	6121	10323	9187	8705	10410	10527	9552	11041	9288	7155
Middle Eighty Percent	2919	1011	1653	2301	2114	1822	3436	3291	3423	5461	6224	6930	8596	4867	3848
Bottom Ten Percent	917	-626	479	1264	722	19	-1308	-1275	-302	-8.4	-2.4	1228	1916	977	328

Table A-30: Regional Surplus/Deficit - By Water Year
PNW Loads and Resource Study
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[61] 2009 White Book - 30 Minute Wind (Final)

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Regional Surplus/Deficit	2211	-306	889	1714	985	-279	-1551	-1281	-671	-396	823	-218	5027	1433	600
1930 Regional Surplus/Deficit	733	-1153	401	1323	313	-507	-1676	-1328	-603	-170	2543	-944	2094	1025	89
1931 Regional Surplus/Deficit	-679	-1183	71	988	755	-511	-1558	-1438	-853	582	-2645	-277	1667	1073	-166
1932 Regional Surplus/Deficit	1135	-490	875	246	-222	-623	-2281	-2457	1101	4026	8383	8846	11076	3150	2197
1933 Regional Surplus/Deficit	845	193	1042	1490	750	1158	5681	2722	65	4078	3968	5938	11207	9067	3638
1934 Regional Surplus/Deficit	5152	2779	2262	3489	5053	9449	9768	9529	6611	10033	8397	6545	7463	2545	6298
1935 Regional Surplus/Deficit	-108	-1088	637	1343	609	245	4526	5628	-508	1490	3221	5579	6615	4904	2586
1936 Regional Surplus/Deficit	3230	161	321	1186	327	-536	-3043	-1297	-333	1260	6766	7021	9852	1710	1743
1937 Regional Surplus/Deficit	1547	-398	-210	1157	696	-482	-1486	-2069	-1350	-1719	-2383	1155	3202	424	-27
1938 Regional Surplus/Deficit	1980	39	564	1312	964	970	5010	1217	3446	5686	9457	9043	8550	4004	3647
1939 Regional Surplus/Deficit	710	-852	1184	1588	499	-454	-580	-1238	353	2783	6065	7110	5285	1177	1614
1940 Regional Surplus/Deficit	-374	-1494	-213	1564	837	931	-1483	-53	4252	5535	5786	3842	6069	-228	1684
1941 Regional Surplus/Deficit	-917	-1442	443	1110	763	-413	-868	-1189	476	162	539	287	2246	828	241
1942 Regional Surplus/Deficit	518	-451	1555	517	747	1523	442	1504	-767	705	4235	3902	9461	5591	2239
1943 Regional Surplus/Deficit	3099	789	1252	1493	561	610	3418	4150	4554	11290	10229	8490	11365	6620	4586
1944 Regional Surplus/Deficit	2557	-37	-333	1490	861	-13	-867	-1164	9.7	-353	-1201	-1235	1174	-514	-5.6
1945 Regional Surplus/Deficit	402	-752	1132	244	-488	-1077	-1835	-2194	-948	-1547	-3676	4977	7418	867	453
1946 Regional Surplus/Deficit	959	-777	156	1035	1646	1278	2965	468	5697	7326	9841	9134	9189	5812	3851
1947 Regional Surplus/Deficit	2329	592	1310	1421	1698	5448	5333	6141	6684	6442	6390	7382	10158	5612	4909
1948 Regional Surplus/Deficit	1736	171	1032	5912	5230	2542	7632	1326	3067	4279	7861	9858	11585	7942	5285
1949 Regional Surplus/Deficit	4769	3037	2145	2417	1338	748	-661	1433	6109	7075	9382	9491	9931	942	3835
1950 Regional Surplus/Deficit	724	-1353	-290	1424	1256	767	4147	5645	8622	8639	7792	7586	10927	7704	4625
1951 Regional Surplus/Deficit	3633	2140	1612	4051	4757	7014	10121	9961	5287	10352	9411	8675	9175	8001	6762
1952 Regional Surplus/Deficit	4430	1020	1331	4951	3217	2859	6916	3575	1452	8296	9464	9756	10571	4645	5071
1953 Regional Surplus/Deficit	2159	365	400	1328	260	-489	590	5480	1924	175	3725	7773	11494	8380	3341
1954 Regional Surplus/Deficit	2811	814	1161	2386	1887	2345	4152	7104	3190	6236	5792	8153	10824	9199	4830
1955 Regional Surplus/Deficit	7070	6313	5186	2554	3339	1745	-159	-482	409	1388	2076	3616	11121	9104	3754
1956 Regional Surplus/Deficit	5143	2277	1107	3363	4783	6177	9866	5121	7874	8889	10081	9307	11428	8444	6731
1957 Regional Surplus/Deficit	3167	1815	1442	2936	1160	2014	1705	1600	5273	6668	5996	10027	11313	2885	4106
1958 Regional Surplus/Deficit	1427	-802	736	1492	1015	200	1418	5355	3178	4988	7180	9911	11247	2690	3607
1959 Regional Surplus/Deficit	1320	-124	498	2049	2892	4370	8905	5797	2405	8267	5873	7288	10774	4915	4781
1960 Regional Surplus/Deficit	3419	1461	5539	6953	6990	4905	4913	3440	4113	10550	7446	6150	10175	4624	5763
1961 Regional Surplus/Deficit	2373	-410	1161	1712	1417	-168	4361	3607	5070	7641	3317	7611	10591	3592	3772
1962 Regional Surplus/Deficit	1735	813	260	932	1180	1292	2239	2673	560	5654	9931	7172	10186	2059	3119
1963 Regional Surplus/Deficit	1757	-77	178	2961	3251	3966	3788	4960	-24	2750	3051	5322	9842	4860	3552
1964 Regional Surplus/Deficit	2805	607	1096	1241	1414	728	1164	2368	77	3356	1150	6497	11675	9035	3267
1965 Regional Surplus/Deficit	5057	1086	2799	3370	2574	6037	9995	8346	5986	5997	10244	8701	10405	4571	6143
1966 Regional Surplus/Deficit	3909	2322	1853	2594	1220	351	3301	800	-471	9297	4837	5703	7632	5043	3188
1967 Regional Surplus/Deficit	2684	433	633	1314	759	1287	7929	7469	2340	3814	401	6277	11484	7481	4195
1968 Regional Surplus/Deficit	3864	930	1286	2420	1377	999	5138	5266	4234	230	1500	3651	10053	6465	3665
1969 Regional Surplus/Deficit	3690	2029	4068	3943	4754	3002	9327	5237	3692	10330	9783	9621	10111	6224	6066
1970 Regional Surplus/Deficit	1424	-391	888	2336	1432	-468	515	4337	2786	2976	2320	5735	11496	3590	2958
1971 Regional Surplus/Deficit	1308	-908	169	1407	1120	1008	8518	9246	7060	8421	8356	9560	11559	9785	5639
1972 Regional Surplus/Deficit	5689	2645	1966	2835	1868	1299	8384	8428	11453	11254	7740	9494	11602	9309	6677
1973 Regional Surplus/Deficit	6831	4747	2563	2423	1388	2436	1586	465	197	-1525	995	2598	3143	1388	1989
1974 Regional Surplus/Deficit	-506	-1740	87	1225	272	4165	10660	11061	9876	10730	10048	8899	11474	9438	6336
1975 Regional Surplus/Deficit	5022	2997	1686	1112	1044	58	3347	2792	4678	1368	3378	8132	11564	9679	4215
1976 Regional Surplus/Deficit	2118	1995	2235	4135	5083	8643	10128	5905	4775	9670	8559	9272	10762	8807	6749
1977 Regional Surplus/Deficit	7405	7463	6787	2280	1083	-379	-539	-922	-337	-1208	-3301	-2096	-55	-444	889
1978 Regional Surplus/Deficit	896	-132	795	-688	-274	2169	1717	1612	2661	8047	5087	7386	7685	5090	2926
1979 Regional Surplus/Deficit	1564	839	3916	2377	1230	-222	-508	1259	4592	2644	2035	6578	4203	760	2311
1980 Regional Surplus/Deficit	-929	-1550	-79	1078	674	995	-488	-409	314	2425	6757	9311	9780	2516	2258
1981 Regional Surplus/Deficit	837	-882	1048	1399	1706	5776	8022	2570	3600	435	2773	4678	11007	7267	4066
1982 Regional Surplus/Deficit	5110	3404	1332	2056	1992	1242	5303	9402	9062	7871	6137	8699	11209	6934	5678
1983 Regional Surplus/Deficit	5221	1969	3557	3854	2538	2446	7212	4222	9682	6830	6907	7673	9568	8767	5842
1984 Regional Surplus/Deficit	5332	2214	2391	2292	5930	1529	9002	2558	8404	8519	7973	5304	11511	7356	5698
1985 Regional Surplus/Deficit	3248	394	1808	2231	2859	588	1560	506	2024	7057	7011	7830	6320	324	2907
1986 Regional Surplus/Deficit	-1362	-1745	683	2173	3591	-1102	4691	5523	10570	9696	7154	4573	8214	3390	4073
1987 Regional Surplus/Deficit	1614	-441	330	1207	2413	444	-233	-865	1816	3492	2711	3707	5913	973	1619
1988 Regional Surplus/Deficit	-440	-1682	-186	577	200	-611	-2550	-1682	-535	-14	2018	1856	1101	1676	-12
1989 Regional Surplus/Deficit	1253	-428	241	294	384	188	-863	-749	2079	7115	8185	6581	6379	1483	2009
1990 Regional Surplus/Deficit	-983	-1124	292	1082	1528	2996	5939	3784	2790	7387	8667	5691	10550	4005	3788
1991 Regional Surplus/Deficit	2443	1325	81	870	5092	3096	6998	7351	1539	6119	4511	7563	8846	8574	4744
1992 Regional Surplus/Deficit	4895	1842	765	858	736	-436	-1031	-127	2406	984	1434	1261	2179	415	969

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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Regional Surplus/Deficit</i>	-1378	-1618	-654	661	248	-539	-1861	-961	522	2048	1224	5757	4097	2502	835
<i>1994 Regional Surplus/Deficit</i>	1228	383	-384	735	1125	-106	-1418	254	40	-119	4639	2299	3200	1195	830
<i>1995 Regional Surplus/Deficit</i>	-743	-1544	-389	491	148	390	291	4628	5989	5642	2209	5648	8359	4539	2719
<i>1996 Regional Surplus/Deficit</i>	1816	-66	780	2803	7181	9980	10381	11048	9966	8998	10371	8964	11214	8873	7620
<i>1997 Regional Surplus/Deficit</i>	4688	802	1490	2242	1636	2867	10650	10424	9907	8891	10077	9158	11523	9543	6778
<i>1998 Regional Surplus/Deficit</i>	4921	2146	4112	6995	3765	945	4830	4336	3991	4114	3483	6115	11422	4814	4879
-Ranked Averages-															
Top Ten Percent	3226	1150	1325	2950	3654	5735	10027	8850	8448	9826	9469	9110	11025	8916	6808
Middle Eighty Percent	2460	688	1362	2014	1835	1469	3171	2979	3181	4933	5375	6489	8954	4619	3561
Bottom Ten Percent	458	-949	188	984	443	-517	-1549	-1581	-543	-437	-687	831	2700	769	82

Table A-30: Regional Surplus/Deficit - By Water Year
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Regional Surplus/Deficit	1784	-589	588	1453	688	-316	-2160	-1575	-819	-128	1582	-467	3334	1132	265
1930 Regional Surplus/Deficit	307	-1436	100	1061	17	-462	-2014	-1644	-778	72	2645	-1193	401	724	-248
1931 Regional Surplus/Deficit	-1106	-1466	-231	726	458	-546	-1886	-1755	-1024	827	-2386	-525	-27	773	-503
1932 Regional Surplus/Deficit	709	-773	573	-15	-519	-942	-2586	-2751	953	4294	9141	8597	10473	2849	1954
1933 Regional Surplus/Deficit	418	-90	741	1229	453	838	5376	2428	-83	4345	4727	5690	10904	8881	3429
1934 Regional Surplus/Deficit	4726	2496	1960	3228	4756	9181	9542	9236	6463	10301	9155	6297	5770	2245	5976
1935 Regional Surplus/Deficit	-535	-1371	335	1082	312	-75	4221	5334	-656	1758	3979	5331	4922	4603	2253
1936 Regional Surplus/Deficit	2804	-122	20	925	30	-782	-3352	-1676	-481	1527	7524	6773	8158	1409	1409
1937 Regional Surplus/Deficit	1120	-681	-511	896	399	-435	-1825	-2393	-1529	-2080	-1625	907	1508	124	-363
1938 Regional Surplus/Deficit	1553	-244	263	1051	667	650	4705	923	3298	5953	10215	8794	6857	3703	3314
1939 Regional Surplus/Deficit	283	-1135	883	1327	202	-774	-806	-1537	120	3050	6823	6862	3591	876	1280
1940 Regional Surplus/Deficit	-801	-1778	-515	1303	540	612	-1788	-346	4104	5803	6544	3594	4376	-529	1351
1941 Regional Surplus/Deficit	-1344	-1725	142	849	466	-733	-1173	-1483	328	430	1297	39	553	527	-92
1942 Regional Surplus/Deficit	92	-734	1254	256	450	1203	137	1211	-915	972	4993	3654	7768	5290	1906
1943 Regional Surplus/Deficit	2672	506	950	1232	265	290	3113	3856	4406	11558	11326	8241	11059	6319	4381
1944 Regional Surplus/Deficit	2131	-320	-634	1229	565	-299	-1208	-1458	-138	-86	-443	-1484	-519	-815	-339
1945 Regional Surplus/Deficit	-24	-1035	830	-17	-785	-1397	-2140	-2488	-1096	-1280	-2918	4729	5725	567	119
1946 Regional Surplus/Deficit	532	-1060	-145	774	1349	959	2660	174	5549	7593	10599	8885	7495	5511	3518
1947 Regional Surplus/Deficit	1903	309	1008	1160	1401	5128	5028	5847	6536	6710	7148	7134	8464	5311	4576
1948 Regional Surplus/Deficit	1310	-112	731	5651	4933	2222	7327	1032	2919	4547	8619	9609	11269	7641	5065
1949 Regional Surplus/Deficit	4343	2754	1844	2156	1042	428	-888	1046	5961	7342	10140	9242	8238	641	3501
1950 Regional Surplus/Deficit	298	-1636	-592	1162	959	447	3842	5351	8474	8907	8550	7338	10619	7403	4405
1951 Regional Surplus/Deficit	3206	1857	1311	3790	4460	6694	9816	9667	5139	10619	10169	8427	7482	7700	6429
1952 Regional Surplus/Deficit	4003	737	1029	4690	2920	2539	6611	3281	1304	8563	10223	9508	8878	4344	4738
1953 Regional Surplus/Deficit	1732	82	99	1067	-36	-809	285	5186	1776	442	4483	7525	11178	8079	3121
1954 Regional Surplus/Deficit	2384	531	859	2125	1590	2025	3847	6810	3042	6503	6550	7905	10359	9441	4644
1955 Regional Surplus/Deficit	6643	6030	4885	2293	3042	1426	-464	-775	261	1656	2835	3368	10812	9341	3581
1956 Regional Surplus/Deficit	4717	1994	805	3102	4486	5857	9561	4828	7726	9157	11133	9058	11121	8143	6524
1957 Regional Surplus/Deficit	2740	1532	1141	2675	864	1694	1400	1307	5125	6936	6754	9778	11007	2584	3887
1958 Regional Surplus/Deficit	1001	-1085	434	1231	719	-120	1113	5061	3030	5255	7938	9663	9683	2390	3284
1959 Regional Surplus/Deficit	894	-407	196	1788	2595	4051	8600	5504	2257	8535	6631	7039	9961	4614	4520
1960 Regional Surplus/Deficit	2992	1178	5238	6692	6693	4586	4608	3146	3965	10817	8204	5902	8482	4323	5430
1961 Regional Surplus/Deficit	1947	-693	859	1451	1120	-488	4056	3313	4922	7909	4075	7362	10169	3291	3543
1962 Regional Surplus/Deficit	1308	530	-41	671	883	972	1934	2379	412	5921	10689	6924	8493	1758	2786
1963 Regional Surplus/Deficit	1330	-360	-124	2700	2955	3647	3483	4666	-172	3018	3810	5074	8149	4559	3219
1964 Regional Surplus/Deficit	2379	324	795	980	1117	408	859	2075	-71	3624	1908	6248	11352	8734	3046
1965 Regional Surplus/Deficit	4630	803	2498	3108	2277	5718	9690	8053	5838	6264	11093	8453	8712	4270	5814
1966 Regional Surplus/Deficit	3482	2038	1551	2333	923	32	2996	506	-619	9565	5596	5455	5939	4742	2855
1967 Regional Surplus/Deficit	2257	150	332	1053	462	968	7624	7176	2192	4082	1159	6029	11173	7180	3976
1968 Regional Surplus/Deficit	3437	647	985	2159	1080	679	4833	4973	4086	498	2258	3403	8360	6164	3332
1969 Regional Surplus/Deficit	3264	1746	3767	3682	4457	2682	9022	4943	3544	10598	10542	9373	8417	5923	5733
1970 Regional Surplus/Deficit	997	-674	587	2075	1135	-625	62	4012	2638	3244	3078	5487	9802	3289	2624
1971 Regional Surplus/Deficit	882	-1192	-132	1146	823	688	8213	8952	6912	8689	9114	9312	11259	10004	5465
1972 Regional Surplus/Deficit	5262	2362	1664	2573	1571	979	8079	8135	11305	11902	8498	9245	11279	9546	6518
1973 Regional Surplus/Deficit	6404	4464	2261	2162	1092	2116	1281	285	42	-1263	1742	2259	1449	1087	1655
1974 Regional Surplus/Deficit	-933	-2023	-215	964	-24	3846	10435	10882	9728	10998	11036	8650	11153	9680	6187
1975 Regional Surplus/Deficit	4595	2714	1384	850	747	-262	3042	2499	4530	1635	4136	7884	11264	9913	4042
1976 Regional Surplus/Deficit	1691	1712	1934	3874	4787	8323	9823	5612	4627	9938	9317	9024	9069	8506	6416
1977 Regional Surplus/Deficit	6978	7180	6486	2019	786	-698	-766	-1222	-492	-946	-2666	-2344	-1748	-745	556
1978 Regional Surplus/Deficit	470	-415	494	-582	-559	1457	1412	1318	2513	8315	5845	7138	5992	4789	2592
1979 Regional Surplus/Deficit	1138	556	3615	2116	933	-322	-735	590	4444	2912	2793	6330	2510	459	1974
1980 Regional Surplus/Deficit	-1355	-1833	-380	817	377	675	-715	-792	166	2693	7515	9063	8087	2215	1925
1981 Regional Surplus/Deficit	411	-1165	746	1137	1409	5456	7717	2277	3452	703	3531	4430	10698	6966	3847
1982 Regional Surplus/Deficit	4683	3121	1030	1795	1695	923	4998	9108	8914	8139	6895	8451	10887	6634	5457
1983 Regional Surplus/Deficit	4795	1686	3255	3593	2241	2126	6907	3929	9534	7098	7666	7425	7875	8466	5509
1984 Regional Surplus/Deficit	4906	1931	2089	2030	5633	1209	8697	2265	8256	8786	8731	5056	9818	7055	5365
1985 Regional Surplus/Deficit	2821	111	1506	1970	2562	269	1255	326	1768	7324	7769	7582	4627	23	2574
1986 Regional Surplus/Deficit	-1788	-2028	382	1912	3294	-1421	4386	5229	10422	9964	7912	4325	6521	3089	3740
1987 Regional Surplus/Deficit	1188	-724	28	946	2116	125	-459	-1254	1669	3759	3469	3459	4220	672	1286
1988 Regional Surplus/Deficit	-866	-1965	-487	316	-97	-570	-2882	-2003	-711	227	2736	1287	-592	1375	-351
1989 Regional Surplus/Deficit	827	-711	-61	32	87	-132	-1089	-1048	1848	7382	8943	6332	4686	1182	1675
1990 Regional Surplus/Deficit	-1410	-1407	-9.6	820	1231	2676	5634	3491	2642	7655	9425	5442	8857	3704	3455
1991 Regional Surplus/Deficit	2016	1042	-221	609	4795	2776	6693	7057	1391	6387	5269	7315	7153	8273	4411
1992 Regional Surplus/Deficit	4469	1559	463	597	440	-390	-1367	-308	1731	1252	2192	1013	486	114	628

Table A-30: Regional Surplus/Deficit - By Water Year
 PNW Loads and Resource Study
 2018 - 2019 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>1993 Regional Surplus/Deficit</i>	-1804	-1901	-955	400	-49	-519	-2196	-1288	349	2292	1365	5508	2404	2201	497
<i>1994 Regional Surplus/Deficit</i>	802	100	-686	474	828	-426	-1723	-39	-108	148	5397	2051	1507	895	497
<i>1995 Regional Surplus/Deficit</i>	-1170	-1827	-690	230	-149	70	-14	4335	5841	5910	2967	5399	6666	4238	2386
<i>1996 Regional Surplus/Deficit</i>	1389	-349	478	2542	6884	10028	10155	10870	9818	9266	11642	8716	9630	8572	7363
<i>1997 Regional Surplus/Deficit</i>	4262	519	1189	1980	1339	2548	10424	10021	9759	9158	11214	8909	11193	9306	6576
<i>1998 Regional Surplus/Deficit</i>	4494	1863	3810	6734	3469	626	4525	4042	3843	4381	4241	5866	11059	4513	4655
-Ranked Averages-															
Top Ten Percent	2799	867	1024	2689	3358	5468	9756	8573	8300	10148	10430	8861	10132	8779	6573
Middle Eighty Percent	2033	405	1061	1760	1538	1169	2868	2677	3018	5200	6128	6239	7688	4358	3266
Bottom Ten Percent	31	-1232	-113	723	146	-635	-1875	-1889	-707	-270	-99	537	1007	468	-254

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Section 8

Monthly OY 2010 – 2019

Average Energy in Megawatts ¹

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Imports	A-5
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Renewable Resources	A-8
Cogeneration	A-9
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Intra-Regional Transfers	A-16
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Rocky Reach & Rock Island Allocation	A-19
Wanapum & Priest Rapids Allocation	A-20
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¹ Tables A-11 through A-14 are obsolete and no longer available.

² Capacity Reserves are not applicable to energy.

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Table A-1
Total Retail Loads
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-1: Pacific Northwest Total Retail Loads
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Loads															
<i>-Federal Entities-</i>															
1 Federal Entities	127	126	117	118	134	146	152	145	132	125	125	119	116	129	130
2 Total Federal Entities	127	126	117	118	134	146	152	145	132	125	125	119	116	129	130
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	524	523	525	526	527	530	531	524	518	508	508	507	506	523	521
6 Total Direct Service Industry	524	523	525	526	527	530	531	524	518	508	508	507	506	523	521
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	4541	4509	4515	4792	5509	5917	5946	5778	5253	4915	4915	4623	4715	4709	5096
8 Total Generating Public Entities	4541	4509	4515	4792	5509	5917	5946	5778	5253	4915	4915	4623	4715	4709	5096
<i>-Non-Generating Public Entities-</i>															
9 Non-Generating Public Entities	3688	3655	3360	3316	3827	4259	4325	4077	3554	3453	3453	3483	3673	3943	3744
10 Total Non-Generating Public Entities	3688	3655	3360	3316	3827	4259	4325	4077	3554	3453	3453	3483	3673	3943	3744
<i>-Investor-Owned Entities-</i>															
11 Investor-Owned Entities	10530	10474	9728	9821	10784	11854	12056	11443	10640	9897	9897	9628	10833	11605	10731
12 Total Investor-Owned Entities	10530	10474	9728	9821	10784	11854	12056	11443	10640	9897	9897	9628	10833	11605	10731
<i>-Other Firm Loads-</i>															
13 Other PNW Entities	306	305	305	310	310	309	301	309	317	320	320	318	313	300	310
14 Total Other Firm Loads	306	305	305	310	310	309	301	309	317	320	320	318	313	300	310
<i>-Total Regional Firm Loads-</i>															
15 Federal Entities	383	382	335	212	148	178	223	224	182	349	349	408	402	439	291
16 Direct Service Industry	524	523	525	526	527	530	531	524	518	508	508	507	506	523	521
17 Public Entities	8229	8164	7876	8107	9335	10176	10272	9855	8808	8368	8368	8105	8388	8652	8840
18 Investor-Owned Entities	10530	10474	9728	9821	10784	11854	12056	11443	10640	9897	9897	9628	10833	11605	10731
19 Other Entities	306	305	305	310	310	309	301	309	317	320	320	318	313	300	310
20 Total Regional Firm Loads	19972	19849	18769	18976	21104	23047	23382	22355	20464	19442	19442	18967	20441	21519	20693
Non-Firm Loads															
<i>-Investor-Owned Entities-</i>															
21 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
22 Total Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Non-Firm Loads-</i>															
23 Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
27 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Total Regional Non-Firm Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Loads-</i>															
29 Federal Entities	383	382	335	212	148	178	223	224	182	349	349	408	402	439	291
30 Direct Service Industry	524	523	525	526	527	530	531	524	518	508	508	507	506	523	521
31 Public Entities	8229	8164	7876	8107	9335	10176	10272	9855	8808	8368	8368	8105	8388	8652	8840
32 Investor-Owned Entities	10530	10474	9742	9821	10784	11854	12060	11466	10694	9931	9931	9628	10833	11605	10742
33 Other Entities	306	305	305	310	310	309	301	309	317	320	320	318	313	300	310
34 Total Regional Loads	19972	19849	18783	18976	21104	23047	23386	22378	20519	19476	19476	18967	20441	21519	20703

Table A-1: Pacific Northwest Total Retail Loads
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Loads															
<i>-Federal Entities-</i>															
1 Federal Entities	129	131	120	121	138	151	155	147	134	127	127	121	118	131	133
2 Total Federal Entities	129	131	120	121	138	151	155	147	134	127	127	121	118	131	133
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	523	525	525	526	527	530	531	524	518	508	508	507	506	523	521
6 Total Direct Service Industry	523	525	525	526	527	530	531	524	518	508	508	507	506	523	521
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	4677	4723	4678	4966	5708	6145	6162	6069	5522	5095	5095	4790	4803	4796	5282
8 Total Generating Public Entities	4677	4723	4678	4966	5708	6145	6162	6069	5522	5095	5095	4790	4803	4796	5282
<i>-Non-Generating Public Entities-</i>															
9 Non-Generating Public Entities	3736	3782	3431	3388	3901	4327	4403	4147	3625	3534	3534	3557	3746	4025	3820
10 Total Non-Generating Public Entities	3736	3782	3431	3388	3901	4327	4403	4147	3625	3534	3534	3557	3746	4025	3820
<i>-Investor-Owned Entities-</i>															
11 Investor-Owned Entities	11261	11343	10519	10560	11691	12677	12900	12216	11381	10581	10581	10326	10958	11722	11401
12 Total Investor-Owned Entities	11261	11343	10519	10560	11691	12677	12900	12216	11381	10581	10581	10326	10958	11722	11401
<i>-Other Firm Loads-</i>															
13 Other PNW Entities	299	300	307	320	313	303	321	315	314	300	300	300	308	321	310
14 Total Other Firm Loads	299	300	307	320	313	303	321	315	314	300	300	300	308	321	310
<i>-Total Regional Firm Loads-</i>															
15 Federal Entities	385	387	338	215	152	182	225	226	184	351	351	410	404	441	293
16 Direct Service Industry	523	525	525	526	527	530	531	524	518	508	508	507	506	523	521
17 Public Entities	8413	8505	8109	8354	9609	10472	10566	10216	9146	8629	8629	8348	8549	8821	9102
18 Investor-Owned Entities	11261	11343	10519	10560	11691	12677	12900	12216	11381	10581	10581	10326	10958	11722	11401
19 Other Entities	299	300	307	320	313	303	321	315	314	300	300	300	308	321	310
20 Total Regional Firm Loads	20881	21059	19799	19975	22293	24165	24543	23498	21543	20370	20370	19891	20726	21828	21627
Non-Firm Loads															
<i>-Investor-Owned Entities-</i>															
21 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
22 Total Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Non-Firm Loads-</i>															
23 Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
27 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Total Regional Non-Firm Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Loads-</i>															
29 Federal Entities	385	387	338	215	152	182	225	226	184	351	351	410	404	441	293
30 Direct Service Industry	523	525	525	526	527	530	531	524	518	508	508	507	506	523	521
31 Public Entities	8413	8505	8109	8354	9609	10472	10566	10216	9146	8629	8629	8348	8549	8821	9102
32 Investor-Owned Entities	11261	11343	10533	10560	11691	12677	12904	12239	11435	10615	10615	10326	10958	11722	11412
33 Other Entities	299	300	307	320	313	303	321	315	314	300	300	300	308	321	310
34 Total Regional Loads	20881	21059	19813	19975	22293	24165	24547	23521	21597	20404	20404	19891	20726	21828	21638

Table A-1: Pacific Northwest Total Retail Loads
PNW Loads and Resource Study
2011 - 2012 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Loads															
<i>-Federal Entities-</i>															
1 Federal Entities	132	132	122	123	140	154	158	150	136	128	129	123	120	133	135
2 Total Federal Entities	132	132	122	123	140	154	158	150	136	128	129	123	120	133	135
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	85	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	85	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	524	524	525	526	527	530	531	537	518	507	509	507	506	523	522
6 Total Direct Service Industry	524	524	525	526	527	530	531	537	518	507	509	507	506	523	522
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	4812	4815	4763	5041	5791	6219	6293	6197	5647	5193	5233	4899	4983	4973	5401
8 Total Generating Public Entities	4812	4815	4763	5041	5791	6219	6293	6197	5647	5193	5233	4899	4983	4973	5401
<i>-Non-Generating Public Entities-</i>															
9 Non-Generating Public Entities	3844	3847	3515	3463	3980	4408	4472	4235	3684	3578	3609	3619	3815	4101	3894
10 Total Non-Generating Public Entities	3844	3847	3515	3463	3980	4408	4472	4235	3684	3578	3609	3619	3815	4101	3894
<i>-Investor-Owned Entities-</i>															
11 Investor-Owned Entities	11462	11466	10646	10673	11813	12833	13142	12416	11631	10755	10831	10559	11235	12057	11606
12 Total Investor-Owned Entities	11462	11466	10646	10673	11813	12833	13142	12416	11631	10755	10831	10559	11235	12057	11606
<i>-Other Firm Loads-</i>															
13 Other PNW Entities	315	315	305	303	310	319	323	321	315	301	302	301	310	407	319
14 Total Other Firm Loads	315	315	305	303	310	319	323	321	315	301	302	301	310	407	319
<i>-Total Regional Firm Loads-</i>															
15 Federal Entities	388	388	340	217	154	185	228	234	186	352	353	412	406	443	296
16 Direct Service Industry	524	524	525	526	527	530	531	537	518	507	509	507	506	523	522
17 Public Entities	8656	8663	8278	8504	9771	10627	10764	10433	9330	8771	8842	8518	8798	9074	9295
18 Investor-Owned Entities	11462	11466	10646	10673	11813	12833	13142	12416	11631	10755	10831	10559	11235	12057	11606
19 Other Entities	315	315	305	303	310	319	323	321	315	301	302	301	310	407	319
20 Total Regional Firm Loads	21345	21356	20094	20223	22576	24494	24988	23941	21980	20687	20837	20298	21254	22505	22038
Non-Firm Loads															
<i>-Investor-Owned Entities-</i>															
21 Investor-Owned Entities	0	0	14	0	0	0	3.5	24	54	34	34	0	0	0	11
22 Total Investor-Owned Entities	0	0	14	0	0	0	3.5	24	54	34	34	0	0	0	11
<i>-Total Regional Non-Firm Loads-</i>															
23 Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Investor-Owned Entities	0	0	14	0	0	0	3.5	24	54	34	34	0	0	0	11
27 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Total Regional Non-Firm Loads	0	0	14	0	0	0	3.5	24	54	34	34	0	0	0	11
<i>-Total Regional Loads-</i>															
29 Federal Entities	388	388	340	217	154	185	228	234	186	352	353	412	406	443	296
30 Direct Service Industry	524	524	525	526	527	530	531	537	518	507	509	507	506	523	522
31 Public Entities	8656	8663	8278	8504	9771	10627	10764	10433	9330	8771	8842	8518	8798	9074	9295
32 Investor-Owned Entities	11462	11466	10660	10673	11813	12833	13146	12440	11686	10789	10865	10559	11235	12057	11617
33 Other Entities	315	315	305	303	310	319	323	321	315	301	302	301	310	407	319
34 Total Regional Loads	21345	21356	20109	20223	22576	24494	24991	23965	22035	20721	20871	20298	21254	22505	22049

Table A-1: Pacific Northwest Total Retail Loads
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Loads															
<i>-Federal Entities-</i>															
1 Federal Entities	134	134	123	124	142	156	159	151	137	130	130	124	121	134	136
2 Total Federal Entities	134	134	123	124	142	156	159	151	137	130	130	124	121	134	136
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	524	524	525	526	527	530	531	524	518	508	508	507	506	523	521
6 Total Direct Service Industry	524	524	525	526	527	530	531	524	518	508	508	507	506	523	521
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	4973	4976	4943	5212	5981	6413	6431	6341	5766	5334	5334	5013	5027	5014	5533
8 Total Generating Public Entities	4973	4976	4943	5212	5981	6413	6431	6341	5766	5334	5334	5013	5027	5014	5533
<i>-Non-Generating Public Entities-</i>															
9 Non-Generating Public Entities	3917	3920	3579	3517	4038	4465	4540	4293	3744	3650	3650	3698	3875	4167	3956
10 Total Non-Generating Public Entities	3917	3920	3579	3517	4038	4465	4540	4293	3744	3650	3650	3698	3875	4167	3956
<i>-Investor-Owned Entities-</i>															
11 Investor-Owned Entities	11725	11729	10869	10897	12057	13092	13210	12620	11759	10878	10878	10678	11392	12266	11786
12 Total Investor-Owned Entities	11725	11729	10869	10897	12057	13092	13210	12620	11759	10878	10878	10678	11392	12266	11786
<i>-Other Firm Loads-</i>															
13 Other PNW Entities	402	402	391	389	396	405	409	405	401	388	388	388	396	409	398
14 Total Other Firm Loads	402	402	391	389	396	405	409	405	401	388	388	388	396	409	398
<i>-Total Regional Firm Loads-</i>															
15 Federal Entities	390	390	342	219	157	188	229	230	188	354	354	413	407	444	297
16 Direct Service Industry	524	524	525	526	527	530	531	524	518	508	508	507	506	523	521
17 Public Entities	8890	8897	8522	8729	10019	10879	10970	10634	9510	8985	8985	8712	8901	9181	9490
18 Investor-Owned Entities	11725	11729	10869	10897	12057	13092	13210	12620	11759	10878	10878	10678	11392	12266	11786
19 Other Entities	402	402	391	389	396	405	409	405	401	388	388	388	396	409	398
20 Total Regional Firm Loads	21930	21941	20649	20760	23157	25094	25350	24413	22376	21112	21112	20697	21602	22823	22491
Non-Firm Loads															
<i>-Investor-Owned Entities-</i>															
21 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
22 Total Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Non-Firm Loads-</i>															
23 Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
27 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Total Regional Non-Firm Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Loads-</i>															
29 Federal Entities	390	390	342	219	157	188	229	230	188	354	354	413	407	444	297
30 Direct Service Industry	524	524	525	526	527	530	531	524	518	508	508	507	506	523	521
31 Public Entities	8890	8897	8522	8729	10019	10879	10970	10634	9510	8985	8985	8712	8901	9181	9490
32 Investor-Owned Entities	11725	11729	10884	10897	12057	13092	13214	12643	11813	10911	10911	10678	11392	12266	11796
33 Other Entities	402	402	391	389	396	405	409	405	401	388	388	388	396	409	398
34 Total Regional Loads	21930	21941	20664	20760	23157	25094	25354	24436	22430	21146	21146	20697	21602	22823	22502

Table A-1: Pacific Northwest Total Retail Loads
PNW Loads and Resource Study
2013 - 2014 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Loads															
<i>-Federal Entities-</i>															
1 Federal Entities	135	135	124	125	144	158	178	168	152	143	143	136	133	148	145
2 Total Federal Entities	135	135	124	125	144	158	178	168	152	143	143	136	133	148	145
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	524	524	525	526	527	530	531	524	518	508	508	507	506	523	521
6 Total Direct Service Industry	524	524	525	526	527	530	531	524	518	508	508	507	506	523	521
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	5035	5038	4989	5257	6033	6467	6555	6462	5875	5431	5431	5101	5116	5101	5614
8 Total Generating Public Entities	5035	5038	4989	5257	6033	6467	6555	6462	5875	5431	5431	5101	5116	5101	5614
<i>-Non-Generating Public Entities-</i>															
9 Non-Generating Public Entities	3981	3985	3637	3573	4098	4531	4603	4355	3799	3705	3705	3731	3934	4229	4014
10 Total Non-Generating Public Entities	3981	3985	3637	3573	4098	4531	4603	4355	3799	3705	3705	3731	3934	4229	4014
<i>-Investor-Owned Entities-</i>															
11 Investor-Owned Entities	11912	11916	11016	11045	12212	13262	13739	13124	12232	11322	11322	11118	11877	12783	12135
12 Total Investor-Owned Entities	11912	11916	11016	11045	12212	13262	13739	13124	12232	11322	11322	11118	11877	12783	12135
<i>-Other Firm Loads-</i>															
13 Other PNW Entities	403	403	393	390	398	406	411	404	403	389	389	389	398	410	400
14 Total Other Firm Loads	403	403	393	390	398	406	411	404	403	389	389	389	398	410	400
<i>-Total Regional Firm Loads-</i>															
15 Federal Entities	391	391	343	220	158	189	249	247	202	367	367	425	419	458	306
16 Direct Service Industry	524	524	525	526	527	530	531	524	518	508	508	507	506	523	521
17 Public Entities	9016	9023	8626	8830	10131	10998	11158	10818	9673	9137	9137	8833	9050	9331	9628
18 Investor-Owned Entities	11912	11916	11016	11045	12212	13262	13739	13124	12232	11322	11322	11118	11877	12783	12135
19 Other Entities	403	403	393	390	398	406	411	404	403	389	389	389	398	410	400
20 Total Regional Firm Loads	22245	22257	20903	21011	23426	25386	26087	25117	23028	21723	21723	21272	22249	23506	22989
Non-Firm Loads															
<i>-Investor-Owned Entities-</i>															
21 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
22 Total Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Non-Firm Loads-</i>															
23 Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
27 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Total Regional Non-Firm Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Loads-</i>															
29 Federal Entities	391	391	343	220	158	189	249	247	202	367	367	425	419	458	306
30 Direct Service Industry	524	524	525	526	527	530	531	524	518	508	508	507	506	523	521
31 Public Entities	9016	9023	8626	8830	10131	10998	11158	10818	9673	9137	9137	8833	9050	9331	9628
32 Investor-Owned Entities	11912	11916	11031	11045	12212	13262	13743	13147	12286	11356	11356	11118	11877	12783	12145
33 Other Entities	403	403	393	390	398	406	411	404	403	389	389	389	398	410	400
34 Total Regional Loads	22245	22257	20917	21011	23426	25386	26091	25140	23082	21757	21757	21272	22249	23506	23000

Table A-1: Pacific Northwest Total Retail Loads
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Loads															
<i>-Federal Entities-</i>															
1 Federal Entities	149	148	136	138	160	176	183	173	156	146	146	139	136	152	154
2 Total Federal Entities	149	148	136	138	160	176	183	173	156	146	146	139	136	152	154
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	524	523	525	526	527	530	531	524	518	508	508	507	506	523	521
6 Total Direct Service Industry	524	523	525	526	527	530	531	524	518	508	508	507	506	523	521
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	5141	5105	5078	5353	6145	6587	6602	6514	5918	5471	5471	5136	5154	5136	5680
8 Total Generating Public Entities	5141	5105	5078	5353	6145	6587	6602	6514	5918	5471	5471	5136	5154	5136	5680
<i>-Non-Generating Public Entities-</i>															
9 Non-Generating Public Entities	4062	4026	3693	3627	4156	4592	4665	4401	3833	3758	3758	3787	3992	4291	4069
10 Total Non-Generating Public Entities	4062	4026	3693	3627	4156	4592	4665	4401	3833	3758	3758	3787	3992	4291	4069
<i>-Investor-Owned Entities-</i>															
11 Investor-Owned Entities	12438	12372	11473	11469	12671	13804	13964	13339	12438	11514	11514	11308	12104	13019	12457
12 Total Investor-Owned Entities	12438	12372	11473	11469	12671	13804	13964	13339	12438	11514	11514	11308	12104	13019	12457
<i>-Other Firm Loads-</i>															
13 Other PNW Entities	405	404	394	392	399	408	412	405	404	391	391	391	399	412	401
14 Total Other Firm Loads	405	404	394	392	399	408	412	405	404	391	391	391	399	412	401
<i>-Total Regional Firm Loads-</i>															
15 Federal Entities	405	404	355	232	175	208	253	252	206	370	370	428	422	462	314
16 Direct Service Industry	524	523	525	526	527	530	531	524	518	508	508	507	506	523	521
17 Public Entities	9203	9131	8771	8981	10301	11179	11267	10915	9750	9229	9229	8923	9146	9427	9749
18 Investor-Owned Entities	12438	12372	11473	11469	12671	13804	13964	13339	12438	11514	11514	11308	12104	13019	12457
19 Other Entities	405	404	394	392	399	408	412	405	404	391	391	391	399	412	401
20 Total Regional Firm Loads	22975	22835	21518	21600	24073	26129	26427	25436	23317	22012	22012	21556	22576	23844	23443
Non-Firm Loads															
<i>-Investor-Owned Entities-</i>															
21 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
22 Total Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Non-Firm Loads-</i>															
23 Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
27 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Total Regional Non-Firm Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Loads-</i>															
29 Federal Entities	405	404	355	232	175	208	253	252	206	370	370	428	422	462	314
30 Direct Service Industry	524	523	525	526	527	530	531	524	518	508	508	507	506	523	521
31 Public Entities	9203	9131	8771	8981	10301	11179	11267	10915	9750	9229	9229	8923	9146	9427	9749
32 Investor-Owned Entities	12438	12372	11487	11469	12671	13804	13967	13362	12493	11548	11548	11308	12104	13019	12468
33 Other Entities	405	404	394	392	399	408	412	405	404	391	391	391	399	412	401
34 Total Regional Loads	22975	22835	21532	21600	24073	26129	26430	25459	23371	22045	22045	21556	22576	23844	23454

Table A-1: Pacific Northwest Total Retail Loads
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Loads															
<i>-Federal Entities-</i>															
1 Federal Entities	153	152	140	141	164	181	185	175	157	148	148	141	138	154	156
2 Total Federal Entities	153	152	140	141	164	181	185	175	157	148	148	141	138	154	156
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	85	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	85	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	524	523	525	526	527	530	531	537	518	508	508	507	506	523	522
6 Total Direct Service Industry	524	523	525	526	527	530	531	537	518	508	508	507	506	523	522
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	5180	5143	5115	5415	6213	6657	6673	6592	5985	5535	5535	5194	5215	5195	5744
8 Total Generating Public Entities	5180	5143	5115	5415	6213	6657	6673	6592	5985	5535	5535	5194	5215	5195	5744
<i>-Non-Generating Public Entities-</i>															
9 Non-Generating Public Entities	4121	4085	3748	3681	4215	4654	4728	4481	3904	3813	3813	3841	4050	4353	4131
10 Total Non-Generating Public Entities	4121	4085	3748	3681	4215	4654	4728	4481	3904	3813	3813	3841	4050	4353	4131
<i>-Investor-Owned Entities-</i>															
11 Investor-Owned Entities	12678	12611	11684	11665	12887	14038	14155	13431	12602	11673	11673	11487	12300	13212	12650
12 Total Investor-Owned Entities	12678	12611	11684	11665	12887	14038	14155	13431	12602	11673	11673	11487	12300	13212	12650
<i>-Other Firm Loads-</i>															
13 Other PNW Entities	407	406	395	393	401	409	414	412	406	392	392	392	401	414	403
14 Total Other Firm Loads	407	406	395	393	401	409	414	412	406	392	392	392	401	414	403
<i>-Total Regional Firm Loads-</i>															
15 Federal Entities	409	407	358	236	179	212	255	259	208	372	372	430	424	464	317
16 Direct Service Industry	524	523	525	526	527	530	531	537	518	508	508	507	506	523	522
17 Public Entities	9301	9228	8863	9096	10428	11312	11401	11073	9889	9348	9348	9036	9265	9548	9875
18 Investor-Owned Entities	12678	12611	11684	11665	12887	14038	14155	13431	12602	11673	11673	11487	12300	13212	12650
19 Other Entities	407	406	395	393	401	409	414	412	406	392	392	392	401	414	403
20 Total Regional Firm Loads	23318	23175	21825	21915	24422	26501	26756	25712	23623	22293	22293	21852	22896	24161	23766
Non-Firm Loads															
<i>-Investor-Owned Entities-</i>															
21 Investor-Owned Entities	0	0	14	0	0	0	3.5	24	54	34	34	0	0	0	11
22 Total Investor-Owned Entities	0	0	14	0	0	0	3.5	24	54	34	34	0	0	0	11
<i>-Total Regional Non-Firm Loads-</i>															
23 Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Investor-Owned Entities	0	0	14	0	0	0	3.5	24	54	34	34	0	0	0	11
27 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Total Regional Non-Firm Loads	0	0	14	0	0	0	3.5	24	54	34	34	0	0	0	11
<i>-Total Regional Loads-</i>															
29 Federal Entities	409	407	358	236	179	212	255	259	208	372	372	430	424	464	317
30 Direct Service Industry	524	523	525	526	527	530	531	537	518	508	508	507	506	523	522
31 Public Entities	9301	9228	8863	9096	10428	11312	11401	11073	9889	9348	9348	9036	9265	9548	9875
32 Investor-Owned Entities	12678	12611	11698	11665	12887	14038	14159	13455	12656	11707	11707	11487	12300	13212	12660
33 Other Entities	407	406	395	393	401	409	414	412	406	392	392	392	401	414	403
34 Total Regional Loads	23318	23175	21840	21915	24422	26501	26760	25736	23677	22327	22327	21852	22896	24161	23777

Table A-1: Pacific Northwest Total Retail Loads
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Loads															
<i>-Federal Entities-</i>															
1 Federal Entities	154	154	141	143	166	183	251	233	206	192	191	182	179	202	186
2 Total Federal Entities	154	154	141	143	166	183	251	233	206	192	191	182	179	202	186
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	524	524	525	526	527	530	531	524	518	509	507	507	506	523	521
6 Total Direct Service Industry	524	524	525	526	527	530	531	524	518	509	507	507	506	523	521
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	5217	5220	5176	5477	6282	6728	6746	6667	6054	5624	5580	5254	5278	5256	5807
8 Total Generating Public Entities	5217	5220	5176	5477	6282	6728	6746	6667	6054	5624	5580	5254	5278	5256	5807
<i>-Non-Generating Public Entities-</i>															
9 Non-Generating Public Entities	4159	4163	3804	3734	4271	4716	4784	4540	3955	3881	3848	3895	4106	4414	4186
10 Total Non-Generating Public Entities	4159	4163	3804	3734	4271	4716	4784	4540	3955	3881	3848	3895	4106	4414	4186
<i>-Investor-Owned Entities-</i>															
11 Investor-Owned Entities	12868	12873	11867	11835	13082	14242	14371	13596	12797	11881	11798	11642	12451	13410	12833
12 Total Investor-Owned Entities	12868	12873	11867	11835	13082	14242	14371	13596	12797	11881	11798	11642	12451	13410	12833
<i>-Other Firm Loads-</i>															
13 Other PNW Entities	408	408	397	395	403	411	416	409	408	394	393	394	402	416	404
14 Total Other Firm Loads	408	408	397	395	403	411	416	409	408	394	393	394	402	416	404
<i>-Total Regional Firm Loads-</i>															
15 Federal Entities	410	410	360	237	181	215	321	312	257	416	415	471	465	512	346
16 Direct Service Industry	524	524	525	526	527	530	531	524	518	509	507	507	506	523	521
17 Public Entities	9376	9383	8980	9212	10554	11444	11530	11207	10010	9505	9428	9149	9384	9670	9993
18 Investor-Owned Entities	12868	12873	11867	11835	13082	14242	14371	13596	12797	11881	11798	11642	12451	13410	12833
19 Other Entities	408	408	397	395	403	411	416	409	408	394	393	394	402	416	404
20 Total Regional Firm Loads	23585	23597	22128	22204	24746	26843	27169	26048	23989	22705	22541	22162	23208	24530	24098
Non-Firm Loads															
<i>-Investor-Owned Entities-</i>															
21 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
22 Total Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Non-Firm Loads-</i>															
23 Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
27 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Total Regional Non-Firm Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Loads-</i>															
29 Federal Entities	410	410	360	237	181	215	321	312	257	416	415	471	465	512	346
30 Direct Service Industry	524	524	525	526	527	530	531	524	518	509	507	507	506	523	521
31 Public Entities	9376	9383	8980	9212	10554	11444	11530	11207	10010	9505	9428	9149	9384	9670	9993
32 Investor-Owned Entities	12868	12873	11881	11835	13082	14242	14375	13619	12852	11915	11832	11642	12451	13410	12844
33 Other Entities	408	408	397	395	403	411	416	409	408	394	393	394	402	416	404
34 Total Regional Loads	23585	23597	22142	22204	24746	26843	27173	26071	24044	22738	22575	22162	23208	24530	24108

Table A-1: Pacific Northwest Total Retail Loads
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Loads															
<i>-Federal Entities-</i>															
1 Federal Entities	199	199	182	186	222	246	253	235	208	192	193	183	181	204	207
2 Total Federal Entities	199	199	182	186	222	246	253	235	208	192	193	183	181	204	207
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	524	524	525	526	527	530	531	524	518	507	509	507	506	523	521
6 Total Direct Service Industry	524	524	525	526	527	530	531	524	518	507	509	507	506	523	521
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	5275	5279	5237	5540	6352	6799	6820	6745	6124	5645	5690	5314	5341	5316	5873
8 Total Generating Public Entities	5275	5279	5237	5540	6352	6799	6820	6745	6124	5645	5690	5314	5341	5316	5873
<i>-Non-Generating Public Entities-</i>															
9 Non-Generating Public Entities	4218	4222	3857	3786	4330	4777	4855	4603	4015	3905	3939	3953	4166	4480	4246
10 Total Non-Generating Public Entities	4218	4222	3857	3786	4330	4777	4855	4603	4015	3905	3939	3953	4166	4480	4246
<i>-Investor-Owned Entities-</i>															
11 Investor-Owned Entities	13064	13068	12036	11992	13248	14414	14519	13809	12930	11932	12017	11780	12601	13584	12995
12 Total Investor-Owned Entities	13064	13068	12036	11992	13248	14414	14519	13809	12930	11932	12017	11780	12601	13584	12995
<i>-Other Firm Loads-</i>															
13 Other PNW Entities	409	409	398	396	404	412	417	410	409	394	395	395	403	417	405
14 Total Other Firm Loads	409	409	398	396	404	412	417	410	409	394	395	395	403	417	405
<i>-Total Regional Firm Loads-</i>															
15 Federal Entities	455	455	400	280	237	278	323	314	258	416	417	472	466	514	368
16 Direct Service Industry	524	524	525	526	527	530	531	524	518	507	509	507	506	523	521
17 Public Entities	9493	9501	9094	9325	10681	11576	11675	11348	10139	9550	9629	9268	9508	9796	10119
18 Investor-Owned Entities	13064	13068	12036	11992	13248	14414	14519	13809	12930	11932	12017	11780	12601	13584	12995
19 Other Entities	409	409	398	396	404	412	417	410	409	394	395	395	403	417	405
20 Total Regional Firm Loads	23944	23956	22454	22519	25097	27210	27464	26404	24254	22800	22966	22422	23485	24834	24409
Non-Firm Loads															
<i>-Investor-Owned Entities-</i>															
21 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
22 Total Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Non-Firm Loads-</i>															
23 Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
27 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Total Regional Non-Firm Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Loads-</i>															
29 Federal Entities	455	455	400	280	237	278	323	314	258	416	417	472	466	514	368
30 Direct Service Industry	524	524	525	526	527	530	531	524	518	507	509	507	506	523	521
31 Public Entities	9493	9501	9094	9325	10681	11576	11675	11348	10139	9550	9629	9268	9508	9796	10119
32 Investor-Owned Entities	13064	13068	12050	11992	13248	14414	14522	13832	12984	11966	12050	11780	12601	13584	13006
33 Other Entities	409	409	398	396	404	412	417	410	409	394	395	395	403	417	405
34 Total Regional Loads	23944	23956	22468	22519	25097	27210	27468	26427	24308	22834	23000	22422	23485	24834	24419

Table A-1: Pacific Northwest Total Retail Loads
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Firm Loads															
<i>-Federal Entities-</i>															
1 Federal Entities	200	200	183	187	224	248	255	237	210	195	195	185	182	206	209
2 Total Federal Entities	200	200	183	187	224	248	255	237	210	195	195	185	182	206	209
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	524	524	525	526	527	530	531	524	518	508	508	507	506	523	521
6 Total Direct Service Industry	524	524	525	526	527	530	531	524	518	508	508	507	506	523	521
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	5335	5339	5300	5604	6423	6871	6892	6822	6193	5732	5732	5375	5405	5377	5940
8 Total Generating Public Entities	5335	5339	5300	5604	6423	6871	6892	6822	6193	5732	5732	5375	5405	5377	5940
<i>-Non-Generating Public Entities-</i>															
9 Non-Generating Public Entities	4281	4285	3916	3842	4390	4843	4921	4650	4072	3978	3978	4010	4228	4545	4306
10 Total Non-Generating Public Entities	4281	4285	3916	3842	4390	4843	4921	4650	4072	3978	3978	4010	4228	4545	4306
<i>-Investor-Owned Entities-</i>															
11 Investor-Owned Entities	13241	13246	12199	12156	13429	14612	14704	13985	13094	12126	12126	11928	12760	13754	13165
12 Total Investor-Owned Entities	13241	13246	12199	12156	13429	14612	14704	13985	13094	12126	12126	11928	12760	13754	13165
<i>-Other Firm Loads-</i>															
13 Other PNW Entities	410	410	399	397	405	414	418	411	410	396	396	396	405	418	407
14 Total Other Firm Loads	410	410	399	397	405	414	418	411	410	396	396	396	405	418	407
<i>-Total Regional Firm Loads-</i>															
15 Federal Entities	456	456	402	281	238	279	326	316	260	419	419	474	468	516	370
16 Direct Service Industry	524	524	525	526	527	530	531	524	518	508	508	507	506	523	521
17 Public Entities	9616	9624	9216	9446	10813	11714	11813	11472	10264	9710	9710	9385	9633	9922	10245
18 Investor-Owned Entities	13241	13246	12199	12156	13429	14612	14704	13985	13094	12126	12126	11928	12760	13754	13165
19 Other Entities	410	410	399	397	405	414	418	411	410	396	396	396	405	418	407
20 Total Regional Firm Loads	24248	24260	22742	22806	25413	27550	27792	26709	24547	23159	23159	22690	23771	25133	24708
Non-Firm Loads															
<i>-Investor-Owned Entities-</i>															
21 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
22 Total Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Non-Firm Loads-</i>															
23 Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Investor-Owned Entities	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
27 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Total Regional Non-Firm Loads	0	0	14	0	0	0	3.5	23	54	34	34	0	0	0	11
<i>-Total Regional Loads-</i>															
29 Federal Entities	456	456	402	281	238	279	326	316	260	419	419	474	468	516	370
30 Direct Service Industry	524	524	525	526	527	530	531	524	518	508	508	507	506	523	521
31 Public Entities	9616	9624	9216	9446	10813	11714	11813	11472	10264	9710	9710	9385	9633	9922	10245
32 Investor-Owned Entities	13241	13246	12214	12156	13429	14612	14707	14008	13149	12160	12160	11928	12760	13754	13176
33 Other Entities	410	410	399	397	405	414	418	411	410	396	396	396	405	418	407
34 Total Regional Loads	24248	24260	22756	22806	25413	27550	27796	26732	24601	23193	23193	22690	23771	25133	24718

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Table A-2
Exports
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-2: Regional Exports
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Exports East of Continental Divide-</i>															
1 AVWP to PPLM PwrS	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
2 BPA to Other Entities	44	44	38	41	45	50	49	48	45	41	41	38	41	44	44
3 Total Exports to ECD	50	50	44	48	52	56	56	54	52	48	48	45	47	51	50
<i>-Exports to Pacific Southwest-</i>															
4 AVST to SMUD PwrS	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
5 BPA to Other Entities	36	33	30	22	28	30	24	23	28	33	36	39	45	46	32
6 BPA to PASA C/N/X	4.5	4.5	4.5	0	0	0	0	0	0	0	0	0	0	4.5	1.1
7 BPA to PASA S/N/X	0	0	0	0	0	0	0	0	0	0	0	2.2	2.2	0	0.4
8 BPA to RVSD CapS	0	0	0	0	4.7	4.9	4.5	4.8	5.0	4.9	4.9	6.5	0	0	2.9
9 BPA to RVSD C/N/X	6.7	6.3	7	6.8	0	0	0	0	0	0	0	0	0	0	1.7
10 BPA to RVSD C/N/X	10	10	11	11	2.6	2.8	2.5	2.7	2.8	2.8	2.8	0	0	11	4.9
11 BPA to RVSD S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	25	26	0	4.3
12 BURB to BURB PwrS	0	0	2.9	3	3.3	3.0	2.8	2.5	4.7	2.9	2.8	3.6	3.7	3.2	3.0
13 GLEN to GLEN PwrS	4.9	5.0	5.9	6.1	6.6	6.0	5.6	5.0	9.4	5.7	5.7	7.2	7.4	6.5	6.4
14 LDWP to LDWP PwrS	17	17	20	21	23	21	19	17	32	20	20	25	26	22	22
15 LDWP to LDWP PwrS	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
16 MACQ to BURB PwrS	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
17 Other Entities to Other Entities	54	64	46	57	58	59	58	62	76	82	86	67	83	60	64
18 PG&E to PG&E PwrS	26	38	20	21	15	17	20	23	30	33	34	40	45	41	28
19 PG&E to PG&E PwrS	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
20 PG&E to PG&E PwrS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 PGE to GLEN PwrS	13	13	13	12	12	13	13	12	11	4.8	4.8	1.3	0	12	9.7
22 PGE to GLEN S/Pwr/X	10	10	11	0	0	0	0	0	0	0	0	0	11	11	3.5
23 PPL to REDD PwrS	37	37	31	29	0	0	0	0	0	0	0	23	25	34	15
24 PPL to SMUD PwrS	100	100	62	58	55	100	100	100	100	58	58	0	0	58	66
25 PSE to PG&E S/Pwr/X	179	179	168	0	0	0	0	0	0	0	0	0	54	161	47
26 SCL to NCPA S/Pwr/X	19	19	30	14	0	0	0	0	0	0	0	0	30	30	10
27 SDGE to SDGE PwrS	50	50	50	50	50	50	50	50	50	24	12	36	50	50	46
28 SMUD to SMUD PwrS	18	18	18	18	18	16	16	16	18	18	18	18	18	18	18
29 SMUD to SMUD PwrS	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
30 TID to TID PwrS	34	34	34	34	34	34	34	34	34	16	17	1.1	34	34	30
31 TID to TID PwrS	0	0	32	34	37	33	31	28	52	32	32	40	41	36	33
32 BPA NW-SW Intertie Losses	1.7	1.6	1.6	1.2	1.1	1.1	0.9	0.9	1.1	1.2	1.3	2.2	2.2	1.8	1.4
33 Total Exports To PSW	808	828	777	561	502	543	534	542	626	515	522	526	702	843	625
<i>-Exports to Inland Southwest-</i>															
34 BPA to SPP PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
35 Total Exports To ISW	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
<i>-Exports to Canada-</i>															
36 BPA to BCHP CanEnt	567	567	567	567	567	567	567	567	567	567	567	567	567	567	567
37 Total Exports To Canada	567	567	567	567	567	567	567	567	567	567	567	567	567	567	567
<i>-Exports to Other Entities-</i>															
38 Total Exports To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Exports-</i>															
39 Federal Entities	744	741	734	694	693	701	693	691	694	725	728	756	759	749	719
40 Public Entities	217	227	255	246	242	236	234	232	292	247	255	228	322	289	254
41 Investor-Owned Entities	456	469	392	199	156	200	201	211	229	157	147	146	228	415	250
42 Other Entities	83	83	83	83	75	75	75	75	75	75	83	83	83	83	79
43 Total Exports.	1500	1521	1464	1222	1166	1211	1202	1209	1291	1204	1212	1213	1392	1536	1303

Table A-2: Regional Exports
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Exports East of Continental Divide-</i>															
1 AVWP to PPLM PwrS	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
2 BPA to Other Entities	43	43	37	41	44	47	46	46	45	40	40	38	40	45	43
3 Total Exports to ECD	50	50	44	48	51	54	53	53	51	47	47	44	47	52	49
<i>-Exports to Pacific Southwest-</i>															
4 AVST to SMUD PwrS	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
5 BPA to Other Entities	36	33	30	22	28	30	24	23	28	33	36	39	45	46	32
6 BPA to PASA C/N/X	4.5	4.5	4.5	0	0	0	0	0	0	0	0	0	0	4.5	1.1
7 BPA to PASA S/N/X	0	0	0	0	0	0	0	0	0	0	0	2.2	2.2	0	0.4
8 BPA to RVSD C/N/X	10	11	11	10	2.8	2.8	2.5	2.7	2.8	2.8	2.5	0	0	10	4.9
9 BPA to RVSD S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	25	26	0	4.3
10 BURB to BURB PwrS	2.4	2.5	2.9	3	3.3	3.0	2.8	2.5	4.7	2.9	2.8	3.6	3.7	3.2	3.2
11 GLEN to GLEN PwrS	4.9	5.0	5.9	6.1	6.6	6.0	5.6	5.0	9.4	5.7	5.7	7.2	7.4	6.5	6.4
12 LDWP to LDWP PwrS	17	17	20	21	23	21	19	17	32	20	20	25	26	22	22
13 LDWP to LDWP PwrS	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
14 MACQ to BURB PwrS	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
15 Other Entities to Other Entities	54	64	46	57	58	59	58	62	76	82	86	67	83	60	64
16 PG&E to PG&E PwrS	26	39	20	21	15	17	20	23	30	33	34	40	45	42	28
17 PG&E to PG&E PwrS	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
18 PG&E to PG&E PwrS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 PGE to GLEN PwrS	14	14	14	13	14	15	12	9.9	8.5	2.9	2.9	0.9	0	12	9.7
20 PGE to GLEN S/Pwr/X	10	10	11	0	0	0	0	0	0	0	0	0	11	10	3.5
21 PPL to REDD PwrS	27	27	22	21	0	0	0	0	0	0	0	17	18	25	11
22 PPL to SMUD PwrS	74	74	44	42	42	74	74	67	74	42	42	0	0	42	48
23 PSE to PG&E S/Pwr/X	179	179	168	0	0	0	0	0	0	0	0	0	54	161	47
24 SCL to NCPA S/Pwr/X	19	19	30	14	0	0	0	0	0	0	0	0	30	30	10
25 SDGE to SDGE PwrS	50	50	50	50	50	50	50	50	50	24	9.1	18	50	50	44
26 SMUD to SMUD PwrS	18	18	18	18	18	16	16	16	18	18	18	18	18	18	18
27 SMUD to SMUD PwrS	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
28 TID to TID PwrS	34	34	34	34	34	34	34	34	34	16	8.4	25	34	34	31
29 TID to TID PwrS	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
30 BPA NW-SW Intertie Losses	1.5	1.5	1.4	1.0	0.9	1.0	0.8	0.8	0.9	1.1	1.1	2	2.2	1.8	1.3
31 Total Exports To PSW	796	818	745	531	486	514	503	503	594	491	486	518	695	817	601
<i>-Exports to Inland Southwest-</i>															
32 BPA to SPP PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
33 Total Exports To ISW	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
<i>-Exports to Canada-</i>															
34 BPA to BCHP CanEnt	527	527	527	527	527	527	527	527	527	527	527	527	527	527	527
35 Total Exports To Canada	527	527	527	527	527	527	527	527	527	527	527	527	527	527	527
<i>-Exports to Other Entities-</i>															
36 Total Exports To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Exports-</i>															
37 Federal Entities	697	695	686	645	648	653	645	644	648	679	682	709	718	709	674
38 Public Entities	246	258	255	246	242	236	234	232	292	247	246	252	322	290	258
39 Investor-Owned Entities	422	435	367	176	144	176	174	176	202	139	125	121	221	389	226
40 Other Entities	83	83	83	83	75	75	75	75	75	75	83	83	83	83	79
41 Total Exports.	1447	1470	1390	1150	1109	1140	1128	1128	1217	1140	1135	1164	1344	1471	1237

Table A-2: Regional Exports
PNW Loads and Resource Study
2011 - 2012 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Exports East of Continental Divide-</i>															
1 AVWP to PPLM PwrS	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
2 BPA to Other Entities	44	44	38	5.1	5.2	6.1	5.4	5.3	4.6	3.4	3.4	4.9	5.3	6.6	11
3 Total Exports to ECD	51	51	45	12	12	13	12	12	11	10	10	12	12	13	18
<i>-Exports to Pacific Southwest-</i>															
4 AVST to SMUD PwrS	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
5 BPA to Other Entities	36	33	30	22	28	30	24	23	28	33	36	39	45	46	32
6 BPA to PASA C/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	4.5	0.4
7 BPA to PASA C/N/X	4.5	4.5	4.5	0	0	0	0	0	0	0	0	0	0	0	0.7
8 BPA to PASA S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 BPA to PASA S/N/X	0	0	0	0	0	0	0	0	0	0	0	2.2	2.2	0	0.4
10 BPA to RVSD C/N/X	0	0	0	10	2.8	2.7	2.7	2.7	2.7	2.5	2.8	0	0	11	3.1
11 BPA to RVSD C/N/X	11	11	10	0	0	0	0	0	0	0	0	0	0	0	1.8
12 BPA to RVSD S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 BPA to RVSD S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	26	26	0	4.3
14 BURB to BURB PwrS	2.4	2.5	2.9	3	3.3	3.0	2.8	2.4	4.7	2.9	2.8	3.6	3.7	3.2	3.2
15 GLEN to GLEN PwrS	4.9	5.0	5.9	6.1	6.6	6.0	5.6	4.8	9.4	5.7	5.7	7.2	7.4	6.5	6.4
16 LDWP to LDWP PwrS	17	17	20	21	23	21	19	16	32	20	20	25	26	22	22
17 LDWP to LDWP PwrS	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
18 MACQ to BURB PwrS	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.2
19 Other Entities to Other Entities	54	64	46	57	58	59	58	62	76	82	86	67	83	60	64
20 PG&E to PG&E PwrS	26	39	20	21	15	17	20	23	30	33	34	40	45	42	28
21 PG&E to PG&E PwrS	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
22 PG&E to PG&E PwrS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 PGE to GLEN PwrS	14	14	14	13	14	14	12	9.8	8.5	3.9	3.9	1.4	0	11	9.7
24 PGE to GLEN S/Pwr/X	11	11	11	0	0	0	0	0	0	0	0	0	0	0	1.8
25 PPL to REDD PwrS	28	28	22	21	0	0	0	0	0	0	0	18	18	25	11
26 PPL to SMUD PwrS	74	74	44	42	42	74	74	70	74	40	40	0	0	42	48
27 PSE to PG&E S/Pwr/X	179	179	168	0	0	0	0	0	0	0	0	0	54	161	47
28 SCL to NCPA S/Pwr/X	19	19	30	14	0	0	0	0	0	0	0	0	30	30	10
29 SDGE to SDGE PwrS	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
30 SMUD to SMUD PwrS	18	18	18	18	18	16	16	16	18	18	18	18	18	18	18
31 SMUD to SMUD PwrS	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
32 TID to TID PwrS	34	34	34	34	34	34	34	34	34	16	6.2	12	34	34	30
33 TID to TID PwrS	27	27	32	34	37	33	31	27	52	32	32	40	41	36	35
34 BPA NW-SW Intertie Losses	1.5	1.5	1.4	1.0	0.9	1.0	0.8	0.8	0.9	1.1	1.2	2	2.2	1.8	1.3
35 Total Exports To PSW	798	819	744	531	486	514	503	503	593	491	482	507	684	807	598
<i>-Exports to Inland Southwest-</i>															
36 BPA to SPP PwrS	0	0	0	45	45	45	45	45	45	75	75	75	75	75	48
37 BPA to SPP PwrS	75	75	75	0	0	0	0	0	0	0	0	0	0	0	12
38 Total Exports To ISW	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
<i>-Exports to Canada-</i>															
39 BPA to BCHP CanEnt	0	0	0	517	517	517	517	517	517	517	517	517	517	517	431
40 BPA to BCHP CanEnt	517	517	517	0	0	0	0	0	0	0	0	0	0	0	86
41 Total Exports To Canada	517	517	517	517	517	517	517	517	517	517	517	517	517	517	517
<i>-Exports to Other Entities-</i>															
42 Total Exports To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Exports-</i>															
43 Federal Entities	689	686	676	600	599	602	595	593	598	632	635	666	673	661	632
44 Public Entities	246	258	255	246	242	236	234	231	292	247	244	239	322	290	257
45 Investor-Owned Entities	423	435	366	176	145	176	174	178	202	138	123	123	210	378	224
46 Other Entities	83	83	83	83	75	75	75	75	75	75	83	83	83	83	79
47 Total Exports.	1440	1462	1381	1105	1060	1088	1077	1077	1167	1093	1084	1111	1288	1412	1193

Table A-2: Regional Exports
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Exports East of Continental Divide-</i>															
1 AVWP to PPLM PwrS	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
2 BPA to Other Entities	5.8	5.8	4.6	5.1	5.2	6.1	5.5	5.3	4.6	3.4	3.4	5	5.3	6.6	5.2
3 Total Exports to ECD	13	13	11	12	12	13	12	12	11	10	10	12	12	13	12
<i>-Exports to Pacific Southwest-</i>															
4 AVST to SMUD PwrS	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
5 BPA to Other Entities	36	33	30	22	28	30	24	23	28	33	36	39	45	46	32
6 BPA to PASA C/N/X	4.5	4.5	4.5	0	0	0	0	0	0	0	0	0	0	4.5	1.1
7 BPA to PASA S/N/X	0	0	0	0	0	0	0	0	0	0	0	2.2	2.2	0	0.4
8 BPA to RVSD C/N/X	11	11	9.5	11	2.8	2.5	2.8	2.7	2.5	2.8	2.8	0	0	11	4.9
9 BPA to RVSD S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	26	26	0	4.3
10 BURB to BURB PwrS	2.4	2.5	2.9	3	3.3	3.0	2.8	2.5	4.7	2.9	2.8	3.6	3.7	3.2	3.2
11 GLEN to GLEN PwrS	4.9	5.0	5.9	6.1	6.6	6.0	5.6	5.0	9.4	5.7	5.7	7.2	7.4	6.5	6.4
12 LDWP to LDWP PwrS	17	17	20	21	23	21	19	17	32	20	20	25	26	22	22
13 LDWP to LDWP PwrS	25	25	21	18	16	16	18	19	25	30	33	30	37	32	24
14 MACQ to BURB PwrS	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
15 Other Entities to Other Entities	54	64	46	57	58	59	58	62	76	82	86	67	84	60	64
16 PG&E to PG&E PwrS	26	39	20	21	15	17	20	23	30	33	34	40	45	41	28
17 PG&E to PG&E PwrS	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
18 PG&E to PG&E PwrS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 PGE to GLEN PwrS	14	14	14	0	0	0	0	0	0	0	0	0	0	0	2.3
20 PGE to GLEN S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 PPL to REDD PwrS	28	28	22	21	0	0	0	0	0	0	0	18	18	25	11
22 PPL to SMUD PwrS	74	74	43	43	42	74	74	67	74	42	42	0	0	43	48
23 PSE to PG&E S/Pwr/X	179	179	168	0	0	0	0	0	0	0	0	0	54	161	47
24 SCL to NCPA S/Pwr/X	19	19	30	14	0	0	0	0	0	0	0	0	30	30	10
25 SDGE to SDGE PwrS	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
26 SMUD to SMUD PwrS	18	18	18	18	18	16	16	16	18	18	18	18	18	18	18
27 SMUD to SMUD PwrS	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
28 TID to TID PwrS	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
29 TID to TID PwrS	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
30 BPA NW-SW Intertie Losses	1.5	1.5	1.3	1.0	0.9	1.0	0.8	0.8	0.9	1.1	1.2	2	2.2	1.8	1.3
31 Total Exports To PSW	787	808	730	521	472	499	491	493	585	488	479	507	684	798	589
<i>-Exports to Inland Southwest-</i>															
32 BPA to SPP PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
33 Total Exports To ISW	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
<i>-Exports to Canada-</i>															
34 BPA to BCHP CanEnt	505	505	505	505	505	505	505	505	505	505	505	505	505	505	505
35 Total Exports To Canada	505	505	505	505	505	505	505	505	505	505	505	505	505	505	505
<i>-Exports to Other Entities-</i>															
36 Total Exports To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Exports-</i>															
37 Federal Entities	639	636	630	589	587	590	583	581	586	621	623	654	660	650	614
38 Public Entities	246	258	255	246	242	236	234	232	292	247	243	240	323	289	257
39 Investor-Owned Entities	412	425	354	165	130	161	162	166	193	136	120	121	210	369	215
40 Other Entities	83	83	83	83	75	75	75	75	75	75	83	83	83	83	79
41 Total Exports.	1379	1401	1322	1083	1034	1062	1053	1055	1146	1079	1069	1099	1276	1391	1166

Table A-2: Regional Exports
PNW Loads and Resource Study
2013 - 2014 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Exports East of Continental Divide-</i>															
1 AVWP to PPLM PwrS	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
2 BPA to Other Entities	5.8	5.8	4.6	5.1	5.2	6.1	5.5	5.3	4.6	3.4	3.4	5	5.3	6.6	5.2
3 Total Exports to ECD	13	13	11	12	12	13	12	12	11	10	10	12	12	13	12
<i>-Exports to Pacific Southwest-</i>															
4 AVST to SMUD PwrS	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
5 BPA to Other Entities	36	33	30	22	28	30	24	23	28	33	36	39	45	46	32
6 BPA to PASA C/N/X	4.5	4.5	4.5	0	0	0	0	0	0	0	0	0	0	4.5	1.1
7 BPA to PASA S/N/X	0	0	0	0	0	0	0	0	0	0	0	2.2	2.2	0	0.4
8 BPA to RVSD C/N/X	11	10	10	11	2.6	2.7	2.8	2.7	2.5	2.8	2.8	0	0	11	4.9
9 BPA to RVSD S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	25	26	0	4.3
10 BURB to BURB PwrS	2.4	2.5	2.9	3	3.3	3.0	2.8	2.5	4.7	2.9	2.8	3.6	3.7	3.2	3.2
11 GLEN to GLEN PwrS	4.9	5.0	5.9	6.1	6.6	6.0	5.6	5.0	9.4	5.7	5.7	7.2	7.4	6.5	6.4
12 LDWP to LDWP PwrS	17	17	20	21	23	21	19	17	32	20	20	25	26	22	22
13 LDWP to LDWP PwrS	25	25	21	18	16	16	18	19	25	30	33	30	37	32	24
14 MACQ to BURB PwrS	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
15 Other Entities to Other Entities	54	64	46	57	58	59	58	62	76	82	86	67	84	60	64
16 PG&E to PG&E PwrS	26	39	20	21	15	17	20	23	30	33	34	40	45	41	28
17 PG&E to PG&E PwrS	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
18 PG&E to PG&E PwrS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 PPL to REDD PwrS	28	28	22	21	0	0	0	0	0	0	0	18	18	25	11
20 PPL to SMUD PwrS	74	74	43	43	42	74	74	67	74	42	42	0	0	43	48
21 PSE to PG&E S/Pwr/X	179	179	168	0	0	0	0	0	0	0	0	0	54	161	47
22 SCL to NCPA S/Pwr/X	19	19	30	14	0	0	0	0	0	0	0	0	30	30	10
23 SDGE to SDGE PwrS	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
24 SMUD to SMUD PwrS	18	18	18	18	18	16	16	16	18	18	18	18	18	18	18
25 SMUD to SMUD PwrS	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
26 TID to TID PwrS	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
27 TID to TID PwrS	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
28 BPA NW-SW Intertie Losses	1.5	1.4	1.3	1.0	0.9	1.0	0.8	0.8	0.9	1.1	1.2	2	2.2	1.8	1.3
29 Total Exports To PSW	773	794	717	521	472	499	491	493	585	488	479	507	684	798	587
<i>-Exports to Inland Southwest-</i>															
30 BPA to SPP PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
31 Total Exports To ISW	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
<i>-Exports to Canada-</i>															
32 BPA to BCHP CanEnt	495	495	495	495	495	495	495	495	495	495	495	495	495	495	495
33 Total Exports To Canada	495	495	495	495	495	495	495	495	495	495	495	495	495	495	495
<i>-Exports to Other Entities-</i>															
34 Total Exports To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Exports-</i>															
35 Federal Entities	628	625	621	579	577	580	573	571	576	611	613	644	651	640	604
36 Public Entities	246	258	255	246	242	236	234	232	292	247	243	240	323	289	257
37 Investor-Owned Entities	398	411	340	165	130	161	162	166	193	136	120	121	210	369	213
38 Other Entities	83	83	83	83	75	75	75	75	75	75	83	83	83	83	79
39 Total Exports.	1356	1376	1298	1073	1024	1052	1043	1045	1136	1069	1059	1088	1266	1381	1154

Table A-2: Regional Exports
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Exports East of Continental Divide-</i>															
1 AVWP to PPLM PwrS	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
2 BPA to Other Entities	5.8	5.8	4.6	5.1	5.2	6.1	5.5	5.3	4.6	3.4	3.4	5	5.3	6.6	5.2
3 Total Exports to ECD	13	13	11	12	12	13	12	12	11	10	10	12	12	13	12
<i>-Exports to Pacific Southwest-</i>															
4 AVST to SMUD PwrS	75	75	75	75	75	75	0	0	0	0	0	0	0	0	31
5 BPA to Other Entities	36	33	30	22	28	30	24	23	28	33	36	39	45	46	32
6 BPA to PASA C/N/X	4.5	4.5	4.5	0	0	0	0	0	0	0	0	0	0	0	0.7
7 BPA to PASA S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 BPA to RVSD C/N/X	11	9.4	10	11	2.5	2.8	2.7	2.7	2.7	2.8	2.8	0	0	11	4.9
9 BPA to RVSD S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	25	26	0	4.3
10 BURB to BURB PwrS	2.4	2.5	2.9	3	3.3	3.0	2.8	2.5	4.7	2.9	2.8	3.6	3.7	3.2	3.2
11 GLEN to GLEN PwrS	4.9	5.0	5.9	6.1	6.6	6.0	5.6	5.0	9.4	5.7	5.7	7.2	7.4	6.5	6.4
12 LDWP to LDWP PwrS	17	17	20	21	23	21	19	17	32	20	20	25	26	22	22
13 LDWP to LDWP PwrS	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
14 MACQ to BURB PwrS	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
15 Other Entities to Other Entities	54	64	46	57	58	59	58	62	76	82	86	67	83	60	64
16 PG&E to PG&E PwrS	26	38	20	21	15	17	20	23	30	33	34	40	45	41	28
17 PG&E to PG&E PwrS	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
18 PG&E to PG&E PwrS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 PPL to REDD PwrS	27	27	22	21	0	0	0	0	0	0	0	17	18	25	11
20 PPL to SMUD PwrS	74	74	44	43	40	74	0	0	0	0	0	0	0	0	23
21 PSE to PG&E S/Pwr/X	179	179	168	0	0	0	0	0	0	0	0	0	54	161	47
22 SCL to NCPA S/Pwr/X	19	19	30	14	0	0	0	0	0	0	0	0	30	30	10
23 SDGE to SDGE PwrS	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
24 SMUD to SMUD PwrS	18	18	18	18	18	16	16	16	18	18	18	18	18	18	18
25 SMUD to SMUD PwrS	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
26 TID to TID PwrS	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
27 TID to TID PwrS	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
28 BPA NW-SW Intertie Losses	1.5	1.4	1.4	1.0	0.9	1.0	0.8	0.8	0.9	1.1	1.2	1.9	2.1	1.7	1.3
29 Total Exports To PSW	773	792	719	521	470	499	341	351	436	372	362	429	607	675	518
<i>-Exports to Inland Southwest-</i>															
30 BPA to SPP PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
31 Total Exports To ISW	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
<i>-Exports to Canada-</i>															
32 BPA to BHP CanEnt	483	483	483	483	483	483	483	483	483	483	483	483	483	483	483
33 Total Exports To Canada	483	483	483	483	483	483	483	483	483	483	483	483	483	483	483
<i>-Exports to Other Entities-</i>															
34 Total Exports To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Exports-</i>															
35 Federal Entities	616	612	609	567	564	568	561	559	564	599	601	630	637	623	591
36 Public Entities	246	257	255	246	242	236	234	232	292	247	243	240	322	289	257
37 Investor-Owned Entities	398	410	341	165	129	161	87	99	119	94	79	121	210	326	188
38 Other Entities	83	83	83	83	75	75	0	0	0	0	7.8	7.8	7.8	7.8	36
39 Total Exports.	1343	1363	1288	1061	1010	1040	882	891	975	940	930	999	1177	1246	1073

Table A-2: Regional Exports
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Exports East of Continental Divide-</i>															
1 AVWP to PPLM PwrS	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
2 BPA to Other Entities	5.8	5.8	4.6	5.1	5.2	6.1	5.5	5.3	4.6	3.4	3.4	5	5.3	0	4.7
3 Total Exports to ECD	13	13	11	12	12	13	12	12	11	10	10	12	12	6.8	11
<i>-Exports to Pacific Southwest-</i>															
4 BPA to Other Entities	36	33	30	22	28	30	24	23	28	33	36	39	45	46	32
5 BPA to RVSD C/N/X	10	10	11	11	2.6	2.8	2.5	2.7	2.8	2.8	2.5	0	0	0	4.0
6 BPA to RVSD S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 BURB to BURB PwrS	2.4	2.5	2.9	3	3.3	3.0	2.8	2.4	4.7	2.9	2.8	3.6	3.7	3.2	3.2
8 GLEN to GLEN PwrS	4.9	5.0	5.9	6.1	6.6	6.0	5.6	4.8	9.4	5.7	5.7	7.2	7.4	6.5	6.4
9 LDWP to LDWP PwrS	17	17	20	21	23	21	19	16	32	20	20	25	26	22	22
10 LDWP to LDWP PwrS	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
11 MACQ to BURB PwrS	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.2
12 Other Entities to Other Entities	54	64	46	57	58	59	58	62	76	82	86	67	83	60	64
13 PG&E to PG&E PwrS	26	38	20	21	15	17	20	23	30	33	34	40	45	42	28
14 PG&E to PG&E PwrS	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
15 PG&E to PG&E PwrS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 PPL to REDD PwrS	27	27	22	21	0	0	0	0	0	0	0	0	0	0	6.0
17 PSE to PG&E S/Pwr/X	179	179	168	0	0	0	0	0	0	0	0	0	54	161	47
18 SCL to NCPA S/Pwr/X	19	19	30	14	0	0	0	0	0	0	0	0	30	30	10
19 SDGE to SDGE PwrS	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
20 SMUD to SMUD PwrS	18	18	18	18	18	16	16	16	18	18	18	18	18	18	18
21 SMUD to SMUD PwrS	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
22 TID to TID PwrS	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
23 TID to TID PwrS	27	27	32	34	37	33	31	27	52	32	32	40	41	36	35
24 BPA NW-SW Intertie Losses	1.4	1.3	1.2	1.0	0.9	1.0	0.8	0.8	0.9	1.1	1.1	1.2	1.4	1.4	1.1
25 Total Exports To PSW	618	639	596	402	355	350	341	349	436	372	362	386	562	639	451
<i>-Exports to Inland Southwest-</i>															
26 BPA to SPP PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
27 Total Exports To ISW	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
<i>-Exports to Canada-</i>															
28 BPA to BCHP CanEnt	471	471	471	471	471	471	471	471	471	471	471	471	471	471	471
29 Total Exports To Canada	471	471	471	471	471	471	471	471	471	471	471	471	471	471	471
<i>-Exports to Other Entities-</i>															
30 Total Exports To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Exports-</i>															
31 Federal Entities	599	597	593	554	553	556	548	547	552	587	589	592	598	593	573
32 Public Entities	246	257	255	246	242	236	234	231	292	247	243	240	322	290	257
33 Investor-Owned Entities	324	336	297	122	89	87	87	99	119	94	79	104	192	301	160
34 Other Entities	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.2
35 Total Exports.	1176	1198	1153	930	883	879	869	877	963	928	918	944	1120	1191	994

Table A-2: Regional Exports
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Exports East of Continental Divide-</i>															
1 AVWP to PPLM PwrS	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
2 Total Exports to ECD	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
<i>-Exports to Pacific Southwest-</i>															
3 BPA to Other Entities	36	33	30	22	28	30	24	23	28	33	36	39	45	46	32
4 BURB to BURB PwrS	2.4	2.5	2.9	3	3.3	3.0	2.8	2.5	4.7	2.9	2.8	3.6	3.7	3.2	3.2
5 GLEN to GLEN PwrS	4.9	5.0	5.9	6.1	6.6	6.0	5.6	5.0	9.4	5.7	5.7	7.2	7.4	6.5	6.4
6 LDWP to LDWP PwrS	17	17	20	21	23	21	19	17	32	20	20	25	26	22	22
7 LDWP to LDWP PwrS	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
8 MACQ to BURB PwrS	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
9 Other Entities to Other Entities	54	64	46	57	58	59	58	62	76	82	85	67	83	60	64
10 PG&E to PG&E PwrS	26	39	20	21	15	17	20	23	30	33	34	40	45	42	28
11 PG&E to PG&E PwrS	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
12 PG&E to PG&E PwrS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 PSE to PG&E S/Pwr/X	179	179	168	0	0	0	0	0	0	0	0	0	54	161	47
14 SCL to NCPA S/Pwr/X	19	19	30	14	0	0	0	0	0	0	0	0	30	30	10
15 SDGE to SDGE PwrS	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
16 SMUD to SMUD PwrS	18	18	18	18	18	16	16	16	18	18	18	18	18	18	18
17 SMUD to SMUD PwrS	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
18 TID to TID PwrS	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
19 TID to TID PwrS	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
20 BPA NW-SW Intertie Losses	1.1	1.0	0.9	0.7	0.8	0.9	0.7	0.7	0.8	1	1.1	1.2	1.3	1.4	1.0
21 Total Exports To PSW	580	601	562	370	353	347	339	348	433	369	359	386	562	639	441
<i>-Exports to Inland Southwest-</i>															
22 BPA to SPP PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
23 Total Exports To ISW	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
<i>-Exports to Canada-</i>															
24 BPA to BCHP CanEnt	457	457	457	457	457	457	457	457	457	457	457	457	457	457	457
25 Total Exports To Canada	457	457	457	457	457	457	457	457	457	457	457	457	457	457	457
<i>-Exports to Other Entities-</i>															
26 Total Exports To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Exports-</i>															
27 Federal Entities	569	566	563	524	531	533	526	525	531	566	569	573	578	579	550
28 Public Entities	246	258	255	246	242	236	234	232	292	247	242	240	322	290	257
29 Investor-Owned Entities	296	309	275	100	89	87	87	99	119	94	79	104	192	301	154
30 Other Entities	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
31 Total Exports.	1119	1140	1101	879	861	856	847	857	942	908	897	924	1101	1177	965

Table A-2: Regional Exports
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Exports East of Continental Divide-</i>															
1 AVWP to PPLM PwrS	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
2 Total Exports to ECD	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
<i>-Exports to Pacific Southwest-</i>															
3 BPA to Other Entities	36	33	30	22	28	30	24	23	28	33	36	39	45	46	32
4 BURB to BURB PwrS	2.4	2.5	2.9	3	3.3	3.0	2.8	2.5	4.7	2.9	2.8	3.6	3.7	3.2	3.2
5 GLEN to GLEN PwrS	4.9	5.0	5.9	6.1	6.6	6.0	5.6	5.0	9.4	5.7	5.7	7.2	7.4	6.5	6.4
6 LDWP to LDWP PwrS	17	17	20	21	23	21	19	17	32	20	20	25	26	22	22
7 LDWP to LDWP PwrS	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
8 MACQ to BURB PwrS	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
9 Other Entities to Other Entities	54	64	46	57	58	59	58	62	76	82	86	67	83	60	64
10 PG&E to PG&E PwrS	26	39	20	21	15	17	20	23	30	33	34	40	45	42	28
11 PG&E to PG&E PwrS	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
12 PG&E to PG&E PwrS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 PSE to PG&E S/Pwr/X	179	179	168	0	0	0	0	0	0	0	0	0	54	161	47
14 SCL to NCPA S/Pwr/X	19	19	30	14	0	0	0	0	0	0	0	0	30	30	10
15 SDGE to SDGE PwrS	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
16 SMUD to SMUD PwrS	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
17 TID to TID PwrS	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
18 TID to TID PwrS	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
19 BPA NW-SW Intertie Losses	1.1	1.0	0.9	0.7	0.8	0.9	0.7	0.7	0.8	1.0	1.1	1.2	1.3	1.4	1.0
20 Total Exports To PSW	562	583	544	351	334	331	323	332	414	351	341	367	543	620	424
<i>-Exports to Inland Southwest-</i>															
21 BPA to SPP PwrS	75	75	75	45	45	45	45	40	0	0	0	0	0	0	31
22 Total Exports To ISW	75	75	75	45	45	45	45	40	0	0	0	0	0	0	31
<i>-Exports to Canada-</i>															
23 BPA to BCHP CanEnt	442	442	442	442	442	442	442	442	442	442	442	442	442	442	442
24 Total Exports To Canada	442	442	442	442	442	442	442	442	442	442	442	442	442	442	442
<i>-Exports to Other Entities-</i>															
25 Total Exports To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Exports-</i>															
26 Federal Entities	554	551	548	509	516	518	511	505	471	476	479	483	488	489	506
27 Public Entities	228	239	237	228	223	220	218	216	274	229	224	222	304	271	239
28 Investor-Owned Entities	296	309	275	100	89	87	87	99	119	94	79	104	192	301	154
29 Other Entities	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
30 Total Exports.	1085	1107	1067	845	828	825	816	821	863	799	789	816	992	1069	903

Table A-2: Regional Exports
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Exports East of Continental Divide-</i>															
1 AVWP to PPLM PwrS	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
2 Total Exports to ECD	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
<i>-Exports to Pacific Southwest-</i>															
3 BPA to Other Entities	36	33	30	22	28	30	24	10	0	0	0	0	0	0	15
4 BURB to BURB PwrS	2.4	2.5	2.9	3	3.3	3.0	2.8	2.5	4.7	2.9	2.8	3.6	3.7	3.2	3.2
5 GLEN to GLEN PwrS	4.9	5.0	5.9	6.1	6.6	6.0	5.6	5.0	9.4	5.7	5.7	7.2	7.4	6.5	6.4
6 LDWP to LDWP PwrS	17	17	20	21	23	21	19	17	32	20	20	25	26	22	22
7 LDWP to LDWP PwrS	25	25	21	18	16	16	18	19	25	30	33	30	37	32	24
8 MACQ to BURB PwrS	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
9 Other Entities to Other Entities	54	64	46	57	58	59	58	62	76	82	86	67	84	60	64
10 PG&E to PG&E PwrS	26	39	20	21	15	17	20	27	35	38	40	46	52	48	31
11 PG&E to PG&E PwrS	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
12 PG&E to PG&E PwrS	0	0	0	0	0	0	0	21	27	30	31	36	40	37	16
13 PSE to PG&E S/Pwr/X	179	179	168	0	0	0	0	0	0	0	0	0	54	161	47
14 SCL to NCPA S/Pwr/X	19	19	30	14	0	0	0	0	0	0	0	0	30	30	10
15 SDGE to SDGE PwrS	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
16 SMUD to SMUD PwrS	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
17 TID to TID PwrS	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
18 TID to TID PwrS	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
19 BPA NW-SW Intertie Losses	1.1	1.0	0.9	0.7	0.8	0.9	0.7	0.3	0	0	0	0	0	0	0.4
20 Total Exports To PSW	562	583	544	352	334	331	323	344	417	351	340	369	545	617	425
<i>-Exports to Inland Southwest-</i>															
21 Total Exports To ISW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Exports to Canada-</i>															
22 BPA to BHP CanEnt	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428
23 Total Exports To Canada	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428
<i>-Exports to Other Entities-</i>															
24 Total Exports To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Exports-</i>															
25 Federal Entities	465	462	459	450	457	459	452	439	428	428	428	428	428	428	443
26 Public Entities	228	239	237	228	223	220	218	216	273	229	224	222	304	271	239
27 Investor-Owned Entities	296	309	275	100	89	87	87	123	150	129	115	146	240	345	173
28 Other Entities	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
29 Total Exports.	996	1018	979	787	769	766	757	778	852	786	775	804	980	1051	860

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Table A-3
Regulated Hydro Projects
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-3: Regional Regulated Hydro Projects
PNW Loads and Resource Study
2009 - 2010 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Regulated Hydro Projects-</i>															
1 Albeni Falls	22	18	21	39	26	18	20	15	18	21	27	40	44	40	27
2 Alder	51	43	0	0	0	44	20	12	25	30	0	43	17	22	21
3 Bonneville	195	141	437	476	553	562	568	538	521	284	138	367	299	194	407
4 Boundary	177	144	175	419	323	228	260	184	233	274	404	521	740	429	335
5 Box Canyon	29	24	29	61	49	36	40	30	37	42	60	71	69	59	47
6 Brownlee	187	187	236	233	162	276	212	232	228	322	326	346	209	224	239
7 Cabinet Gorge	44	33	37	63	66	57	77	45	57	50	80	193	200	116	85
8 Chelan	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
9 Chief Joseph	1424	1073	810	999	1299	1187	1304	1081	923	560	763	1186	953	1162	1069
10 Cushman 1	44	39	0	0	0	34	25	15	0	0	0	26	0	0	12
11 Cushman 2	77	74	0	0	0	71	61	42	0	0	0	61	0	0	26
12 Diablo	172	112	34	35	41	111	157	119	36	58	59	93	105	86	85
13 Dworshak	434	412	184	52	51	51	51	51	51	51	53	71	285	451	149
14 Faraday	8.1	7.5	8.6	7.1	5.8	17	8.9	17	31	43	42	40	38	14	20
15 Gorge	182	125	43	43	49	127	167	130	48	73	73	114	129	112	99
16 Grand Coulee	2629	1940	1472	1871	2422	2166	2315	1806	1421	802	1114	1828	1646	2169	1866
17 Hells Canyon	150	150	192	196	130	208	160	176	180	250	258	282	174	176	190
18 Hungry Horse	70	67	78	87	92	93	94	93	90	68	28	29	50	169	83
19 Ice Harbor	112	171	141	136	97	145	110	140	179	209	205	339	259	153	171
20 John Day	749	599	680	763	924	914	934	864	821	646	596	880	787	697	796
21 Kerr	46	47	53	105	111	82	140	71	84	50	69	145	178	159	103
22 La Grande	63	63	0	0	0	63	39	29	56	62	0	63	27	33	34
23 Libby	205	178	168	113	213	190	86	85	84	84	83	320	266	400	184
24 Little Falls	11	8.6	14	12	12	20	7.4	10	18	34	33	32	35	14	18
25 Little Goose	143	178	156	139	101	148	116	130	177	259	322	552	303	169	204
26 Long Lake	28	22	34	30	30	47	18	23	40	72	72	72	72	35	42
27 Lower Baker	71	66	16	9.6	28	59	15	12	1.4	19	34	64	67	59	36
28 Lower Granite	117	180	161	136	101	148	116	131	177	251	325	547	301	116	198
29 Lower Monumental	82	173	146	137	97	147	112	144	183	270	326	544	306	123	198
30 Mayfield	89	20	41	55	55	169	68	49	70	70	70	8.4	120	69	69
31 McNary	365	290	476	529	610	602	623	574	524	374	348	553	458	355	499
32 Merwin	40	17	20	26	64	124	41	35	66	109	60	29	65	33	51
33 Monroe Street	6.6	5.3	11	9.2	9	12	4.6	5.9	12	14	14	14	14	11	10
34 Mossyrock	168	37	72	88	88	252	63	32	52	55	30	0	224	126	96
35 Nine Mile	6.4	5.2	9.7	8.5	8.3	10	4.4	6.1	14	22	21	20	21	9.9	12
36 North Fork	9	8.4	9.5	7.9	6.5	19	9.9	18	35	54	47	54	43	15	23
37 Noxon	62	51	54	94	99	86	114	67	86	81	113	279	293	170	125
38 Oak Grove	17	11	27	22	14	26	17	18	24	34	34	34	34	25	24
39 Oxbow	78	78	100	102	67	107	82	90	90	127	127	136	82	90	96
40 Pelton	36	35	35	36	38	40	36	36	39	46	54	41	39	36	38
41 Pelton Rereg. Dam	8.5	8.2	6.4	8.5	9	9.5	8.5	8.5	9.4	11	14	9.8	9.2	8.3	9.0
42 Post Falls	2.2	1.4	5.2	4.5	4.3	6.4	1.9	2.5	8.9	15	14	13	15	4.6	6.9
43 Priest Rapids	336	337	323	404	520	495	542	447	375	223	105	183	242	293	360
44 River Mill	4.6	4.3	4.9	4.1	3.3	9.7	5.1	9.5	18	23	23	22	20	7.7	11
45 Rock Island PH#1	188	169	142	165	184	179	184	172	155	104	138	186	190	189	171
46 Rock Island PH#2	131	139	109	133	173	160	179	144	120	67	81	136	111	100	131
47 Rocky Reach	652	546	417	519	658	612	672	562	475	293	390	507	516	559	537
48 Ross	194	105	23	32	46	119	166	107	27	42	42	69	73	69	77
49 Round Butte	91	87	86	91	95	99	89	89	99	102	140	103	98	88	96
50 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
51 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
52 The Dalles	497	397	553	602	716	722	748	696	641	489	429	639	568	485	606
53 Thompson Falls	29	28	31	46	48	39	52	36	44	33	44	84	81	65	49
54 Upper Baker	82	22	22	4.4	30	54	8.4	9	0	55	34	43	88	61	35
55 Upper Falls	5.7	4.6	9	8	7.9	9.5	4.1	5.1	9.8	9.4	8.8	8.7	9.3	8.9	7.9
56 Wanapum	411	312	268	350	479	449	502	399	324	168	130	341	343	330	358
57 Wells	429	332	269	330	427	390	428	354	304	170	231	366	325	360	345
58 Yale	47	19	25	9.6	110	120	53	32	60	106	81	0	108	42	57
Total Regulated Hydro w/Enc.	11635	9433	8527	9920	11759	12391	12028	10317	9474	8042	8316	12845	11985	11123	10765

-Total Regulated Hydro w/Enc.-

Continued

Table A-3: Regional Regulated Hydro Projects
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
59 Federal System	7046	5818	5482	6079	7302	7093	7197	6345	5812	4367	4756	7896	6522	6684	6455
60 Public Entities	2174	1593	1082	1583	1740	2306	2287	1769	1408	1265	1170	1879	2366	1881	1785
61 Investor-Owned Entities	2147	1780	1754	2006	2311	2608	2137	1861	1957	2215	2189	2800	2815	2262	2225
62 Other Entities	268	242	209	253	405	385	407	342	296	195	202	270	282	296	300
63 Total Regulated Hydro w/Enc.	11635	9433	8527	9920	11759	12391	12028	10317	9474	8042	8316	12845	11985	11123	10765

Table A-3: Regional Regulated Hydro Projects
PNW Loads and Resource Study
2010 - 2011 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Regulated Hydro Projects-</i>															
1 Albeni Falls	22	18	21	39	26	18	20	15	18	21	27	40	44	40	27
2 Alder	51	43	0	0	0	44	20	12	25	30	0	43	17	22	21
3 Bonneville	196	141	438	476	553	562	568	538	521	284	138	367	299	194	407
4 Boundary	177	144	175	419	323	228	260	184	233	274	404	521	740	429	335
5 Box Canyon	29	24	29	61	49	36	40	30	37	42	60	71	69	59	47
6 Brownlee	187	187	236	233	162	276	212	232	228	322	326	346	209	224	239
7 Cabinet Gorge	44	33	37	63	66	57	77	45	57	50	80	193	200	116	85
8 Chelan	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
9 Chief Joseph	1426	1074	811	1002	1303	1191	1308	1084	926	561	765	1189	956	1166	1072
10 Cushman 1	44	39	0	0	0	34	25	15	0	0	0	26	0	0	12
11 Cushman 2	77	74	0	0	0	71	61	42	0	0	0	61	0	0	26
12 Diablo	172	112	34	35	41	111	157	119	36	58	59	93	105	86	85
13 Dworshak	434	412	184	52	51	51	51	51	51	51	53	71	285	451	149
14 Faraday	8.1	7.5	8.6	7.1	5.8	17	8.9	17	31	43	42	40	38	14	20
15 Gorge	182	125	43	43	49	127	167	130	48	73	73	114	129	112	99
16 Grand Coulee	2645	1952	1481	1874	2427	2170	2319	1809	1424	803	1116	1832	1649	2172	1870
17 Hells Canyon	150	150	192	196	130	208	160	176	180	250	258	282	174	176	190
18 Hungry Horse	70	67	78	87	92	93	94	93	90	68	28	29	50	169	83
19 Ice Harbor	112	171	141	136	97	145	110	140	179	209	205	339	259	153	171
20 John Day	750	600	681	763	924	914	934	864	821	646	596	880	787	697	796
21 Kerr	46	47	53	105	111	82	140	71	84	50	69	145	178	159	103
22 La Grande	63	63	0	0	0	63	39	29	56	62	0	63	27	33	34
23 Libby	205	178	168	113	213	190	86	85	84	84	83	320	266	400	184
24 Little Falls	11	8.6	14	12	12	20	7.4	10	18	34	33	32	35	14	18
25 Little Goose	143	178	156	139	101	148	116	130	177	259	322	552	303	169	204
26 Long Lake	28	22	34	30	30	47	18	23	40	72	72	72	72	35	42
27 Lower Baker	71	66	16	9.6	28	59	15	12	1.4	19	34	64	67	59	36
28 Lower Granite	117	180	161	136	101	148	116	131	177	251	325	547	301	116	198
29 Lower Monumental	82	174	146	137	97	147	112	144	183	270	326	544	306	123	198
30 Mayfield	89	20	41	55	55	169	68	49	70	70	70	8.4	120	69	69
31 McNary	366	290	476	529	610	602	623	574	524	374	348	553	458	355	499
32 Merwin	40	17	20	26	64	124	41	35	66	109	60	29	65	33	51
33 Monroe Street	6.6	5.3	11	9.2	9	12	4.6	5.9	12	14	14	14	14	11	10
34 Mossyrock	168	37	72	88	88	252	63	32	52	55	30	0	224	126	96
35 Nine Mile	6.4	5.2	9.7	8.5	8.3	10	4.4	6.1	14	22	21	20	21	9.9	12
36 North Fork	9	8.4	9.5	7.9	6.5	19	9.9	18	35	54	47	54	43	15	23
37 Noxon	62	51	54	94	99	86	114	67	86	81	113	279	293	170	125
38 Oak Grove	17	11	27	22	14	26	17	18	24	34	34	34	34	25	24
39 Oxbow	78	78	100	102	67	107	82	90	90	127	127	136	82	90	96
40 Pelton	36	35	35	36	38	40	36	36	39	46	54	41	39	36	38
41 Pelton Rereg. Dam	8.5	8.2	6.4	8.5	9	9.5	8.5	8.5	9.4	11	14	9.8	9.2	8.3	9.0
42 Post Falls	2.2	1.4	5.2	4.5	4.3	6.4	1.9	2.5	8.9	15	14	13	15	4.6	6.9
43 Priest Rapids	336	337	323	404	520	495	542	447	375	223	105	183	242	293	360
44 River Mill	4.6	4.3	4.9	4.1	3.3	9.7	5.1	9.5	18	23	23	22	20	7.7	11
45 Rock Island PH#1	188	169	142	165	184	179	184	172	155	104	138	186	190	189	171
46 Rock Island PH#2	131	139	109	133	173	160	179	144	120	67	81	136	111	100	131
47 Rocky Reach	652	546	417	519	658	612	672	562	475	293	390	507	516	559	537
48 Ross	194	105	23	32	46	119	166	107	27	42	42	69	73	69	77
49 Round Butte	91	87	86	91	95	99	89	89	99	102	140	103	98	88	96
50 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
51 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
52 The Dalles	497	398	553	602	716	722	748	696	641	489	429	639	568	485	606
53 Thompson Falls	29	28	31	46	48	39	52	36	44	33	44	84	81	65	49
54 Upper Baker	82	22	22	4.4	30	54	8.4	9	0	55	34	43	88	61	35
55 Upper Falls	5.7	4.6	9	8	7.9	9.5	4.1	5.1	9.8	9.4	8.8	8.7	9.3	8.9	7.9
56 Wanapum	411	312	268	350	479	449	502	399	324	168	130	341	343	330	358
57 Wells	429	332	269	330	427	390	428	354	304	170	231	366	325	360	345
58 Yale	47	19	25	9.6	110	120	53	32	60	106	81	0	108	42	57
Total Regulated Hydro w/Enc.	11654	9448	8539	9926	11767	12398	12036	10324	9479	8046	8320	12851	11991	11130	10773

-Total Regulated Hydro w/Enc.-

Continued

Table A-3: Regional Regulated Hydro Projects
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
59 Federal System	7065	5833	5495	6085	7311	7100	7205	6352	5817	4370	4760	7903	6528	6692	6463
60 Public Entities	2262	1660	1139	1657	1851	2410	2287	1769	1408	1265	1170	1879	2366	1881	1820
61 Investor-Owned Entities	1984	1658	1650	1870	2208	2510	2137	1861	1957	2215	2189	2800	2815	2262	2176
62 Other Entities	343	297	256	314	398	378	407	342	296	195	202	270	282	296	313
63 Total Regulated Hydro w/Enc.	11654	9448	8539	9926	11767	12398	12036	10324	9479	8046	8320	12851	11991	11130	10773

Table A-3: Regional Regulated Hydro Projects
PNW Loads and Resource Study
2011 - 2012 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Regulated Hydro Projects-</i>															
1 Albeni Falls	22	18	21	39	26	18	20	15	18	21	27	40	44	40	27
2 Alder	51	43	0	0	0	44	20	12	25	30	0	43	17	22	20
3 Bonneville	196	141	438	478	555	564	570	540	523	285	138	369	300	195	409
4 Boundary	177	144	175	419	323	228	260	184	233	274	404	521	740	429	335
5 Box Canyon	29	24	29	61	49	36	40	30	37	42	60	71	69	59	47
6 Brownlee	187	187	236	233	162	276	212	232	228	322	326	346	209	224	239
7 Cabinet Gorge	44	33	37	63	66	57	77	45	57	50	80	193	200	116	85
8 Chelan	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
9 Chief Joseph	1430	1077	814	1015	1319	1206	1325	1097	937	568	775	1204	968	1181	1084
10 Cushman 1	44	39	0	0	0	34	25	15	0	0	0	26	0	0	12
11 Cushman 2	77	74	0	0	0	71	61	42	0	0	0	61	0	0	26
12 Diablo	172	112	34	35	41	111	157	119	36	58	59	93	105	86	85
13 Dworshak	434	412	184	52	51	51	51	51	51	51	53	71	285	451	148
14 Faraday	8.1	7.5	8.6	7.1	5.8	17	8.9	17	31	43	42	40	38	14	20
15 Gorge	182	125	43	43	49	127	167	130	48	73	73	114	129	112	99
16 Grand Coulee	2650	1955	1483	1883	2437	2179	2329	1817	1430	807	1121	1840	1657	2182	1877
17 Hells Canyon	150	150	192	196	130	208	160	176	180	250	258	282	174	176	190
18 Hungry Horse	70	67	78	87	92	93	94	93	90	68	28	29	50	169	83
19 Ice Harbor	112	171	141	136	97	146	111	140	180	209	205	341	260	154	171
20 John Day	750	600	681	766	927	917	937	867	824	648	598	884	789	699	799
21 Kerr	46	47	53	105	111	82	140	71	84	50	69	145	178	159	103
22 La Grande	63	63	0	0	0	63	39	29	56	62	0	63	27	33	34
23 Libby	205	178	168	113	213	190	86	85	84	84	83	320	266	400	184
24 Little Falls	11	8.6	14	12	12	20	7.4	10	18	34	33	32	35	14	18
25 Little Goose	143	178	156	140	101	148	117	131	177	260	323	554	304	170	204
26 Long Lake	28	22	34	30	30	47	18	23	40	72	72	72	72	35	42
27 Lower Baker	71	66	16	9.6	28	59	15	12	1.4	19	34	64	67	59	36
28 Lower Granite	117	180	161	136	101	148	117	131	178	252	326	549	302	116	198
29 Lower Monumental	82	174	146	138	97	148	113	144	184	271	327	546	307	123	198
30 Mayfield	89	20	41	55	55	169	68	49	70	70	70	8.4	120	69	69
31 McNary	366	290	476	531	612	604	625	576	526	375	349	555	459	356	501
32 Merwin	40	17	20	26	64	124	41	35	66	109	60	29	65	33	51
33 Monroe Street	6.6	5.3	11	9.2	9	12	4.6	5.9	12	14	14	14	14	11	10
34 Mossyrock	168	37	72	88	88	252	63	32	52	55	30	0	224	126	95
35 Nine Mile	6.4	5.2	9.7	8.5	8.3	10	4.4	6.1	14	22	21	20	21	9.9	12
36 North Fork	9	8.4	9.5	7.9	6.5	19	9.9	18	35	54	47	54	43	15	23
37 Noxon	62	51	54	94	99	86	114	67	86	81	113	279	293	170	125
38 Oak Grove	17	11	27	22	14	26	17	18	24	34	34	34	34	25	24
39 Oxbow	78	78	100	102	67	107	82	90	90	127	127	136	82	90	96
40 Pelton	36	35	35	36	38	40	36	36	39	46	54	41	39	36	38
41 Pelton Rereg. Dam	8.5	8.2	6.4	8.5	9	9.5	8.5	8.5	9.4	11	14	9.8	9.2	8.3	9.0
42 Post Falls	2.2	1.4	5.2	4.5	4.3	6.4	1.9	2.5	8.9	15	14	13	15	4.6	6.9
43 Priest Rapids	336	337	323	404	520	495	542	447	375	223	105	183	242	293	360
44 River Mill	4.6	4.3	4.9	4.1	3.3	9.7	5.1	9.5	18	23	23	22	20	7.7	11
45 Rock Island PH#1	188	169	142	165	184	179	184	172	155	104	138	186	190	189	171
46 Rock Island PH#2	131	139	109	133	173	160	179	144	120	67	81	136	111	100	131
47 Rocky Reach	652	546	417	519	658	612	672	562	475	293	390	507	516	559	537
48 Ross	194	105	23	32	46	119	166	107	27	42	42	69	73	69	77
49 Round Butte	91	87	86	91	95	99	89	89	99	102	140	103	98	88	96
50 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
51 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
52 The Dalles	497	398	553	604	719	724	750	698	644	490	430	641	570	487	608
53 Thompson Falls	29	28	31	46	48	39	52	36	44	33	44	84	81	65	49
54 Upper Baker	82	22	22	4.4	30	54	8.4	9	0	55	34	43	88	61	35
55 Upper Falls	5.7	4.6	9	8	7.9	9.5	4.1	5.1	9.8	9.4	8.8	8.7	9.3	8.9	7.9
56 Wanapum	411	312	268	350	479	449	502	399	324	168	130	341	343	330	358
57 Wells	429	332	269	330	427	390	428	354	304	170	231	366	325	360	345
58 Yale	47	19	25	9.6	110	120	53	32	60	106	81	0	108	42	57
Total Regulated Hydro w/Enc.	11663	9454	8544	9957	11805	12435	12075	10357	9508	8066	8344	12890	12022	11162	10800

-Total Regulated Hydro w/Enc.-

Continued

Table A-3: Regional Regulated Hydro Projects
 PNW Loads and Resource Study
 2011 - 2012 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
59 Federal System	7074	5840	5500	6116	7349	7137	7243	6385	5847	4391	4784	7942	6559	6724	6491
60 Public Entities	2262	1660	1139	1657	2046	2592	2487	1936	1550	1352	1286	2029	2520	2052	1942
61 Investor-Owned Entities	1984	1658	1650	1870	1983	2301	1908	1669	1794	2115	2055	2626	2638	1998	2029
62 Other Entities	343	297	256	314	427	405	438	367	318	209	219	293	305	388	337
63 Total Regulated Hydro w/Enc.	11663	9454	8544	9957	11805	12435	12075	10357	9508	8066	8344	12890	12022	11162	10800

Table A-3: Regional Regulated Hydro Projects
PNW Loads and Resource Study
2012 - 2013 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Regulated Hydro Projects-</i>															
1 Albeni Falls	22	18	21	39	26	18	20	15	18	21	27	40	44	40	27
2 Alder	51	43	0	0	0	44	20	12	25	30	0	43	17	22	21
3 Bonneville	196	142	439	478	555	564	570	540	523	285	138	369	300	195	409
4 Boundary	177	144	175	419	323	228	260	184	233	274	404	521	740	429	335
5 Box Canyon	29	24	29	61	49	36	40	30	37	42	60	71	69	59	47
6 Brownlee	187	187	236	233	162	276	212	232	228	322	326	346	209	224	239
7 Cabinet Gorge	44	33	37	63	66	57	77	45	57	50	80	193	200	116	85
8 Chelan	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
9 Chief Joseph	1448	1091	824	1024	1331	1216	1337	1107	946	573	782	1215	976	1191	1094
10 Cushman 1	44	39	0	0	0	34	25	15	0	0	0	26	0	0	12
11 Cushman 2	77	74	0	0	0	71	61	42	0	0	0	61	0	0	26
12 Diablo	172	112	34	35	41	111	157	119	36	58	59	93	105	86	85
13 Dworshak	434	412	184	52	51	51	51	51	51	51	53	71	285	451	149
14 Faraday	8.1	7.5	8.6	7.1	5.8	17	8.9	17	31	43	42	40	38	14	20
15 Gorge	182	125	43	43	49	127	167	130	48	73	73	114	129	112	99
16 Grand Coulee	2661	1964	1490	1883	2437	2179	2329	1817	1430	807	1121	1840	1657	2182	1879
17 Hells Canyon	150	150	192	196	130	208	160	176	180	250	258	282	174	176	190
18 Hungry Horse	70	67	78	87	92	93	94	93	90	68	28	29	50	169	83
19 Ice Harbor	113	172	141	136	97	146	111	140	180	209	205	341	260	154	171
20 John Day	752	602	683	766	927	917	937	867	824	648	598	884	789	699	799
21 Kerr	46	47	53	105	111	82	140	71	84	50	69	145	178	159	103
22 La Grande	63	63	0	0	0	63	39	29	56	62	0	63	27	33	34
23 Libby	205	178	168	113	213	190	86	85	84	84	83	320	266	400	184
24 Little Falls	11	8.6	14	12	12	20	7.4	10	18	34	33	32	35	14	18
25 Little Goose	144	178	156	140	101	148	117	131	177	260	323	554	304	170	205
26 Long Lake	28	22	34	30	30	47	18	23	40	72	72	72	72	35	42
27 Lower Baker	71	66	16	9.6	28	59	15	12	1.4	19	34	64	67	59	36
28 Lower Granite	118	180	161	136	101	148	117	131	178	252	326	549	302	116	199
29 Lower Monumental	83	174	147	138	97	148	113	144	184	271	327	546	307	123	198
30 Mayfield	89	20	41	55	55	169	68	49	70	70	70	8.4	120	69	69
31 McNary	367	291	478	531	612	604	625	576	526	375	349	555	459	356	501
32 Merwin	40	17	20	26	64	124	41	35	66	109	60	29	65	33	51
33 Monroe Street	6.6	5.3	11	9.2	9	12	4.6	5.9	12	14	14	14	14	11	10
34 Mossyrock	168	37	72	88	88	252	63	32	52	55	30	0	224	126	96
35 Nine Mile	6.4	5.2	9.7	8.5	8.3	10	4.4	6.1	14	22	21	20	21	9.9	12
36 North Fork	9	8.4	9.5	7.9	6.5	19	9.9	18	35	54	47	54	43	15	23
37 Noxon	62	51	54	94	99	86	114	67	86	81	113	279	293	170	125
38 Oak Grove	17	11	27	22	14	26	17	18	24	34	34	34	34	25	24
39 Oxbow	78	78	100	102	67	107	82	90	90	127	127	136	82	90	96
40 Pelton	36	35	35	36	38	40	36	36	39	46	54	41	39	36	38
41 Pelton Rereg. Dam	8.5	8.2	6.4	8.5	9	9.5	8.5	8.5	9.4	11	14	9.8	9.2	8.3	9.0
42 Post Falls	2.2	1.4	5.2	4.5	4.3	6.4	1.9	2.5	8.9	15	14	13	15	4.6	6.9
43 Priest Rapids	336	337	323	404	520	495	542	447	375	223	105	183	242	293	360
44 River Mill	4.6	4.3	4.9	4.1	3.3	9.7	5.1	9.5	18	23	23	22	20	7.7	11
45 Rock Island PH#1	188	169	142	165	184	179	184	172	155	104	138	186	190	189	171
46 Rock Island PH#2	131	139	109	133	173	160	179	144	120	67	81	136	111	100	131
47 Rocky Reach	652	546	417	519	658	612	672	562	475	293	390	507	516	559	537
48 Ross	194	105	23	32	46	119	166	107	27	42	42	69	73	69	77
49 Round Butte	91	87	86	91	95	99	89	89	99	102	140	103	98	88	96
50 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
51 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
52 The Dalles	499	399	555	604	719	724	750	698	644	490	430	641	570	487	608
53 Thompson Falls	29	28	31	46	48	39	52	36	44	33	44	84	81	65	49
54 Upper Baker	82	22	22	4.4	30	54	8.4	9	0	55	34	43	88	61	35
55 Upper Falls	5.7	4.6	9	8	7.9	9.5	4.1	5.1	9.8	9.4	8.8	8.7	9.3	8.9	7.9
56 Wanapum	411	312	268	350	479	449	502	399	324	168	130	341	343	330	358
57 Wells	429	332	269	330	427	390	428	354	304	170	231	366	325	360	345
58 Yale	47	19	25	9.6	110	120	53	32	60	106	81	0	108	42	57
Total Regulated Hydro w/Enc.	11701	9484	8571	9966	11817	12446	12087	10367	9517	8071	8351	12901	12031	11173	10814

-Total Regulated Hydro w/Enc.-

Continued

Table A-3: Regional Regulated Hydro Projects
 PNW Loads and Resource Study
 2012 - 2013 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
59 Federal System	7112	5869	5526	6125	7361	7147	7255	6395	5855	4396	4791	7952	6567	6734	6505
60 Public Entities	2462	1827	1266	1816	2053	2598	2493	1941	1554	1355	1289	2033	2524	2052	1985
61 Investor-Owned Entities	1681	1394	1445	1618	1893	2217	1817	1590	1726	2072	2001	2546	2563	1998	1917
62 Other Entities	446	394	333	407	510	484	522	441	382	249	270	369	376	388	408
63 Total Regulated Hydro w/Enc.	11701	9484	8571	9966	11817	12446	12087	10367	9517	8071	8351	12901	12031	11173	10814

Table A-3: Regional Regulated Hydro Projects
PNW Loads and Resource Study
2013 - 2014 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Regulated Hydro Projects-</i>															
1 Albeni Falls	22	18	21	39	26	18	20	15	18	21	27	40	44	40	27
2 Alder	51	43	0	0	0	44	20	12	25	30	0	43	17	22	21
3 Bonneville	196	142	439	478	555	569	570	540	523	273	138	369	300	195	409
4 Boundary	177	144	175	419	323	228	260	184	233	274	404	521	740	429	335
5 Box Canyon	29	24	29	61	49	36	40	30	37	42	60	71	69	59	47
6 Brownlee	187	187	236	233	162	276	212	232	228	322	326	346	209	224	239
7 Cabinet Gorge	44	33	37	63	66	57	77	45	57	50	80	193	200	116	85
8 Chelan	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
9 Chief Joseph	1461	1101	831	1033	1343	1244	1348	1117	954	541	789	1225	985	1201	1103
10 Cushman 1	44	39	0	0	0	34	25	15	0	0	0	26	0	0	12
11 Cushman 2	77	74	0	0	0	71	61	42	0	0	0	61	0	0	26
12 Diablo	172	112	34	35	41	111	157	119	36	58	59	93	105	86	85
13 Dworshak	434	412	184	52	51	51	51	51	51	51	53	71	285	451	149
14 Faraday	8.1	7.5	8.6	7.1	5.8	17	8.9	17	31	43	42	40	38	14	20
15 Gorge	182	125	43	43	49	127	167	130	48	73	73	114	129	112	99
16 Grand Coulee	2661	1964	1490	1883	2437	2207	2320	1808	1421	751	1121	1840	1657	2182	1877
17 Hells Canyon	150	150	192	196	130	208	160	176	180	250	258	282	174	176	190
18 Hungry Horse	70	67	78	87	92	93	94	93	90	68	28	29	50	169	83
19 Ice Harbor	113	172	141	136	97	146	111	140	180	209	205	341	260	154	171
20 John Day	752	602	683	766	927	927	937	867	824	630	598	884	789	699	799
21 Kerr	46	47	53	105	111	82	140	71	84	50	69	145	178	159	103
22 La Grande	63	63	0	0	0	63	39	29	56	62	0	63	27	33	34
23 Libby	205	178	168	113	213	190	86	85	84	84	83	320	266	400	184
24 Little Falls	11	8.6	14	12	12	20	7.4	10	18	34	33	32	35	14	18
25 Little Goose	144	178	156	140	101	148	117	131	177	260	323	554	304	170	205
26 Long Lake	28	22	34	30	30	47	18	23	40	72	72	72	72	35	42
27 Lower Baker	71	66	16	9.6	28	59	15	12	1.4	19	34	64	67	59	36
28 Lower Granite	118	180	161	136	101	148	117	131	178	252	326	549	302	116	199
29 Lower Monumental	83	174	147	138	97	148	113	144	184	271	327	546	307	123	198
30 Mayfield	89	20	41	55	55	169	68	49	70	70	70	8.4	120	69	69
31 McNary	367	291	478	531	612	611	625	576	526	373	349	555	459	356	501
32 Merwin	40	17	20	26	64	124	41	35	66	109	60	29	65	33	51
33 Monroe Street	6.6	5.3	11	9.2	9	12	4.6	5.9	12	14	14	14	14	11	10
34 Mossyrock	168	37	72	88	88	252	63	32	52	55	30	0	224	126	96
35 Nine Mile	6.4	5.2	9.7	8.5	8.3	10	4.4	6.1	14	22	21	20	21	9.9	12
36 North Fork	9	8.4	9.5	7.9	6.5	19	9.9	18	35	54	47	54	43	15	23
37 Noxon	62	51	54	94	99	86	114	67	86	81	113	279	293	170	125
38 Oak Grove	17	11	27	22	14	26	17	18	24	34	34	34	34	25	24
39 Oxbow	78	78	100	102	67	107	82	90	90	127	127	136	82	90	96
40 Pelton	36	35	35	36	38	40	36	36	39	46	54	41	39	36	38
41 Pelton Rereg. Dam	8.5	8.2	6.4	8.5	9	9.5	8.5	8.5	9.4	11	14	9.8	9.2	8.3	9.0
42 Post Falls	2.2	1.4	5.2	4.5	4.3	6.4	1.9	2.5	8.9	15	14	13	15	4.6	6.9
43 Priest Rapids	336	337	323	404	520	502	542	447	375	209	105	183	242	293	360
44 River Mill	4.6	4.3	4.9	4.1	3.3	9.7	5.1	9.5	18	23	23	22	20	7.7	11
45 Rock Island PH#1	188	169	142	165	184	180	184	172	155	98	138	186	190	189	170
46 Rock Island PH#2	131	139	109	133	173	162	179	144	120	64	81	136	111	100	131
47 Rocky Reach	652	546	417	519	658	620	672	562	475	274	390	507	516	559	536
48 Ross	194	105	23	32	46	119	166	107	27	42	42	69	73	69	77
49 Round Butte	91	87	86	91	95	99	89	89	99	102	140	103	98	88	96
50 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
51 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
52 The Dalles	499	399	555	604	719	732	750	698	644	478	430	641	570	487	608
53 Thompson Falls	29	28	31	46	48	39	52	36	44	33	44	84	81	65	49
54 Upper Baker	82	22	22	4.4	30	54	8.4	9	0	55	34	43	88	61	35
55 Upper Falls	5.7	4.6	9	8	7.9	9.5	4.1	5.1	9.8	9.4	8.8	8.7	9.3	8.9	7.9
56 Wanapum	411	312	268	350	479	456	502	399	324	153	130	341	343	330	358
57 Wells	429	332	269	330	427	396	428	354	304	156	231	366	325	360	345
58 Yale	47	19	25	9.6	110	120	53	32	60	106	81	0	108	42	57
Total Regulated Hydro w/Enc.	11714	9494	8578	9975	11829	12561	12089	10368	9517	7869	8358	12911	12039	11183	10822

-Total Regulated Hydro w/Enc.-

Continued

Table A-3: Regional Regulated Hydro Projects
 PNW Loads and Resource Study
 2013 - 2014 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
59 Federal System	7125	5879	5533	6134	7372	7232	7257	6396	5855	4263	4798	7963	6576	6745	6513
60 Public Entities	2462	1827	1266	1816	2053	2614	2493	1941	1554	1317	1289	2033	2524	2052	1985
61 Investor-Owned Entities	1681	1394	1445	1618	1893	2225	1817	1590	1726	2053	2001	2546	2563	1998	1917
62 Other Entities	446	394	333	407	510	490	522	441	382	236	270	369	376	388	408
63 Total Regulated Hydro w/Enc.	11714	9494	8578	9975	11829	12561	12089	10368	9517	7869	8358	12911	12039	11183	10822

Table A-3: Regional Regulated Hydro Projects
PNW Loads and Resource Study
2014 - 2015 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Regulated Hydro Projects-</i>															
1 Albeni Falls	22	18	21	39	26	18	20	15	18	21	27	40	44	40	27
2 Alder	51	43	0	0	0	44	20	12	25	30	0	43	17	22	21
3 Bonneville	196	142	439	478	555	586	570	540	523	229	138	369	300	195	408
4 Boundary	177	144	175	419	323	228	260	184	233	274	404	521	740	429	335
5 Box Canyon	29	24	29	61	49	36	40	30	37	42	60	71	69	59	47
6 Brownlee	187	187	236	233	162	276	212	232	228	322	326	346	209	224	239
7 Cabinet Gorge	44	33	37	63	66	57	77	45	57	50	80	193	200	116	85
8 Chelan	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
9 Chief Joseph	1473	1110	838	1033	1343	1307	1348	1117	954	404	789	1225	985	1201	1105
10 Cushman 1	44	39	0	0	0	34	25	15	0	0	0	26	0	0	12
11 Cushman 2	77	74	0	0	0	71	61	42	0	0	0	61	0	0	26
12 Diablo	172	112	34	35	41	111	157	119	36	58	59	93	105	86	85
13 Dworshak	434	412	184	52	51	51	51	51	51	51	53	71	285	451	149
14 Faraday	8.1	7.5	8.6	7.1	5.8	17	8.9	17	31	43	42	40	38	14	20
15 Gorge	182	125	43	43	49	127	167	130	48	73	73	114	129	112	99
16 Grand Coulee	2661	1964	1490	1883	2437	2304	2285	1777	1390	549	1121	1840	1657	2182	1869
17 Hells Canyon	150	150	192	196	130	208	160	176	180	250	258	282	174	176	190
18 Hungry Horse	70	67	78	87	92	93	94	93	90	68	28	29	50	169	83
19 Ice Harbor	113	172	141	136	97	146	111	140	180	209	205	341	260	154	171
20 John Day	752	602	683	766	927	964	937	867	824	620	598	884	789	699	802
21 Kerr	46	47	53	105	111	82	140	71	84	50	69	145	178	159	103
22 La Grande	63	63	0	0	0	63	39	29	56	62	0	63	27	33	34
23 Libby	205	178	168	113	213	190	86	85	84	84	83	320	266	400	184
24 Little Falls	11	8.6	14	12	12	20	7.4	10	18	34	33	32	35	14	18
25 Little Goose	144	178	156	140	101	148	117	131	177	260	323	554	304	170	205
26 Long Lake	28	22	34	30	30	47	18	23	40	72	72	72	72	35	42
27 Lower Baker	71	66	16	9.6	28	59	15	12	1.4	19	34	64	67	59	36
28 Lower Granite	118	180	161	136	101	148	117	131	178	252	326	549	302	116	199
29 Lower Monumental	83	174	147	138	97	148	113	144	184	271	327	546	307	123	198
30 Mayfield	89	20	41	55	55	169	68	49	70	70	70	8.4	120	69	69
31 McNary	367	291	478	531	612	636	625	576	526	374	349	555	459	356	503
32 Merwin	40	17	20	26	64	124	41	35	66	109	60	29	65	33	51
33 Monroe Street	6.6	5.3	11	9.2	9	12	4.6	5.9	12	14	14	14	14	11	10
34 Mossyrock	168	37	72	88	88	252	63	32	52	55	30	0	224	126	96
35 Nine Mile	6.4	5.2	9.7	8.5	8.3	10	4.4	6.1	14	22	21	20	21	9.9	12
36 North Fork	9	8.4	9.5	7.9	6.5	19	9.9	18	35	54	47	54	43	15	23
37 Noxon	62	51	54	94	99	86	114	67	86	81	113	279	293	170	125
38 Oak Grove	17	11	27	22	14	26	17	18	24	34	34	34	34	25	24
39 Oxbow	78	78	100	102	67	107	82	90	90	127	127	136	82	90	96
40 Pelton	36	35	35	36	38	40	36	36	39	46	54	41	39	36	38
41 Pelton Rereg. Dam	8.5	8.2	6.4	8.5	9	9.5	8.5	8.5	9.4	11	14	9.8	9.2	8.3	9.0
42 Post Falls	2.2	1.4	5.2	4.5	4.3	6.4	1.9	2.5	8.9	15	14	13	15	4.6	6.9
43 Priest Rapids	336	337	323	404	520	525	542	447	375	152	105	183	242	293	360
44 River Mill	4.6	4.3	4.9	4.1	3.3	9.7	5.1	9.5	18	23	23	22	20	7.7	11
45 Rock Island PH#1	188	169	142	165	184	183	184	172	155	75	138	186	190	189	170
46 Rock Island PH#2	131	139	109	133	173	170	179	144	120	54	81	136	111	100	132
47 Rocky Reach	652	546	417	519	658	649	672	562	475	205	390	507	516	559	536
48 Ross	194	105	23	32	46	119	166	107	27	42	42	69	73	69	77
49 Round Butte	91	87	86	91	95	99	89	89	99	102	140	103	98	88	96
50 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
51 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
52 The Dalles	499	399	555	604	719	760	750	698	644	477	430	641	570	487	610
53 Thompson Falls	29	28	31	46	48	39	52	36	44	33	44	84	81	65	49
54 Upper Baker	82	22	22	4.4	30	54	8.4	9	0	55	34	43	88	61	35
55 Upper Falls	5.7	4.6	9	8	7.9	9.5	4.1	5.1	9.8	9.4	8.8	8.7	9.3	8.9	7.9
56 Wanapum	411	312	268	350	479	483	502	399	324	106	130	341	343	330	358
57 Wells	429	332	269	330	427	415	428	354	304	110	231	366	325	360	345
58 Yale	47	19	25	9.6	110	120	53	32	60	106	81	0	108	42	57
Total Regulated Hydro w/Enc.	11727	9503	8585	9975	11829	12938	12054	10336	9486	7222	8358	12911	12039	11183	10821

-Total Regulated Hydro w/Enc.-

Continued

Table A-3: Regional Regulated Hydro Projects
 PNW Loads and Resource Study
 2014 - 2015 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
59 Federal System	7138	5889	5541	6134	7372	7498	7222	6364	5824	3870	4798	7963	6576	6745	6513
60 Public Entities	2462	1827	1266	1816	2053	2675	2493	1941	1554	1179	1289	2033	2524	2052	1984
61 Investor-Owned Entities	1681	1394	1445	1618	1893	2254	1817	1590	1726	1985	2001	2546	2563	1998	1917
62 Other Entities	446	394	333	407	510	511	522	441	382	188	270	369	376	388	408
63 Total Regulated Hydro w/Enc.	11727	9503	8585	9975	11829	12938	12054	10336	9486	7222	8358	12911	12039	11183	10821

Table A-3: Regional Regulated Hydro Projects
PNW Loads and Resource Study
2015 - 2016 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Regulated Hydro Projects-</i>															
1 Albeni Falls	22	18	21	39	26	18	20	15	18	21	27	40	44	40	27
2 Alder	51	43	0	0	0	44	20	12	25	30	0	43	17	22	20
3 Bonneville	196	142	439	478	555	569	570	540	523	273	138	369	300	195	409
4 Boundary	177	144	175	419	323	228	260	184	233	274	404	521	740	429	335
5 Box Canyon	29	24	29	61	49	36	40	30	37	42	60	71	69	59	47
6 Brownlee	187	187	236	233	162	276	212	232	228	322	326	346	209	224	239
7 Cabinet Gorge	44	33	37	63	66	57	77	45	57	50	80	193	200	116	85
8 Chelan	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
9 Chief Joseph	1473	1110	838	1033	1343	1244	1348	1117	954	541	789	1225	985	1201	1105
10 Cushman 1	44	39	0	0	0	34	25	15	0	0	0	26	0	0	12
11 Cushman 2	77	74	0	0	0	71	61	42	0	0	0	61	0	0	26
12 Diablo	172	112	34	35	41	111	157	119	36	58	59	93	105	86	85
13 Dworshak	434	412	184	52	51	51	51	51	51	51	53	71	285	451	148
14 Faraday	8.1	7.5	8.6	7.1	5.8	17	8.9	17	31	43	42	40	38	14	20
15 Gorge	182	125	43	43	49	127	167	130	48	73	73	114	129	112	99
16 Grand Coulee	2661	1964	1490	1883	2437	2207	2320	1808	1421	751	1121	1840	1657	2182	1877
17 Hells Canyon	150	150	192	196	130	208	160	176	180	250	258	282	174	176	190
18 Hungry Horse	70	67	78	87	92	93	94	93	90	68	28	29	50	169	83
19 Ice Harbor	113	172	141	136	97	146	111	140	180	209	205	341	260	154	171
20 John Day	752	602	683	766	927	927	937	867	824	630	598	884	789	699	799
21 Kerr	46	47	53	105	111	82	140	71	84	50	69	145	178	159	103
22 La Grande	63	63	0	0	0	63	39	29	56	62	0	63	27	33	34
23 Libby	205	178	168	113	213	190	86	85	84	84	83	320	266	400	184
24 Little Falls	11	8.6	14	12	12	20	7.4	10	18	34	33	32	35	14	18
25 Little Goose	144	178	156	140	101	148	117	131	177	260	323	554	304	170	205
26 Long Lake	28	22	34	30	30	47	18	23	40	72	72	72	72	35	42
27 Lower Baker	71	66	16	9.6	28	59	15	12	1.4	19	34	64	67	59	36
28 Lower Granite	118	180	161	136	101	148	117	131	178	252	326	549	302	116	199
29 Lower Monumental	83	174	147	138	97	148	113	144	184	271	327	546	307	123	198
30 Mayfield	89	20	41	55	55	169	68	49	70	70	70	8.4	120	69	69
31 McNary	367	291	478	531	612	611	625	576	526	373	349	555	459	356	501
32 Merwin	40	17	20	26	64	124	41	35	66	109	60	29	65	33	51
33 Monroe Street	6.6	5.3	11	9.2	9	12	4.6	5.9	12	14	14	14	14	11	10
34 Mossyrock	168	37	72	88	88	252	63	32	52	55	30	0	224	126	95
35 Nine Mile	6.4	5.2	9.7	8.5	8.3	10	4.4	6.1	14	22	21	20	21	9.9	12
36 North Fork	9	8.4	9.5	7.9	6.5	19	9.9	18	35	54	47	54	43	15	23
37 Noxon	62	51	54	94	99	86	114	67	86	81	113	279	293	170	125
38 Oak Grove	17	11	27	22	14	26	17	18	24	34	34	34	34	25	24
39 Oxbow	78	78	100	102	67	107	82	90	90	127	127	136	82	90	96
40 Pelton	36	35	35	36	38	40	36	36	39	46	54	41	39	36	38
41 Pelton Rereg. Dam	8.5	8.2	6.4	8.5	9	9.5	8.5	8.5	9.4	11	14	9.8	9.2	8.3	9.0
42 Post Falls	2.2	1.4	5.2	4.5	4.3	6.4	1.9	2.5	8.9	15	14	13	15	4.6	6.9
43 Priest Rapids	336	337	323	404	520	502	542	447	375	209	105	183	242	293	360
44 River Mill	4.6	4.3	4.9	4.1	3.3	9.7	5.1	9.5	18	23	23	22	20	7.7	11
45 Rock Island PH#1	188	169	142	165	184	180	184	172	155	98	138	186	190	189	170
46 Rock Island PH#2	131	139	109	133	173	162	179	144	120	64	81	136	111	100	131
47 Rocky Reach	652	546	417	519	658	620	672	562	475	274	390	507	516	559	537
48 Ross	194	105	23	32	46	119	166	107	27	42	42	69	73	69	77
49 Round Butte	91	87	86	91	95	99	89	89	99	102	140	103	98	88	96
50 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
51 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
52 The Dalles	499	399	555	604	719	732	750	698	644	478	430	641	570	487	608
53 Thompson Falls	29	28	31	46	48	39	52	36	44	33	44	84	81	65	49
54 Upper Baker	82	22	22	4.4	30	54	8.4	9	0	55	34	43	88	61	35
55 Upper Falls	5.7	4.6	9	8	7.9	9.5	4.1	5.1	9.8	9.4	8.8	8.7	9.3	8.9	7.9
56 Wanapum	411	312	268	350	479	456	502	399	324	153	130	341	343	330	358
57 Wells	429	332	269	330	427	396	428	354	304	156	231	366	325	360	345
58 Yale	47	19	25	9.6	110	120	53	32	60	106	81	0	108	42	57
Total Regulated Hydro w/Enc.	11727	9503	8585	9975	11829	12561	12089	10368	9517	7869	8358	12911	12039	11183	10822

-Total Regulated Hydro w/Enc.-

Continued

Table A-3: Regional Regulated Hydro Projects
 PNW Loads and Resource Study
 2015 - 2016 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
59 Federal System	7138	5889	5541	6134	7372	7232	7257	6396	5855	4263	4798	7963	6576	6745	6514
60 Public Entities	2462	1827	1266	1816	2053	2614	2493	1941	1554	1317	1289	2033	2524	2052	1984
61 Investor-Owned Entities	1681	1394	1445	1618	1893	2225	1817	1590	1726	2053	2001	2546	2563	1998	1916
62 Other Entities	446	394	333	407	510	490	522	441	382	236	270	369	376	388	408
63 Total Regulated Hydro w/Enc.	11727	9503	8585	9975	11829	12561	12089	10368	9517	7869	8358	12911	12039	11183	10822

Table A-3: Regional Regulated Hydro Projects
PNW Loads and Resource Study
2016 - 2017 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Regulated Hydro Projects-</i>															
1 Albeni Falls	22	18	21	39	26	18	20	15	18	21	27	40	44	40	27
2 Alder	51	43	0	0	0	44	20	12	25	30	0	43	17	22	21
3 Bonneville	196	142	439	478	555	586	570	540	523	229	138	369	300	195	408
4 Boundary	177	144	175	419	323	228	260	184	233	274	404	521	740	429	335
5 Box Canyon	29	24	29	61	49	36	40	30	37	42	60	71	69	59	47
6 Brownlee	187	187	236	233	162	276	212	232	228	322	326	346	209	224	239
7 Cabinet Gorge	44	33	37	63	66	57	77	45	57	50	80	193	200	116	85
8 Chelan	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
9 Chief Joseph	1473	1110	838	1033	1343	1307	1348	1117	954	404	789	1225	985	1201	1105
10 Cushman 1	44	39	0	0	0	34	25	15	0	0	0	26	0	0	12
11 Cushman 2	77	74	0	0	0	71	61	42	0	0	0	61	0	0	26
12 Diablo	172	112	34	35	41	111	157	119	36	58	59	93	105	86	85
13 Dworshak	434	412	184	52	51	51	51	51	51	51	53	71	285	451	149
14 Faraday	8.1	7.5	8.6	7.1	5.8	17	8.9	17	31	43	42	40	38	14	20
15 Gorge	182	125	43	43	49	127	167	130	48	73	73	114	129	112	99
16 Grand Coulee	2661	1964	1490	1883	2437	2304	2285	1777	1390	549	1121	1840	1657	2182	1869
17 Hells Canyon	150	150	192	196	130	208	160	176	180	250	258	282	174	176	190
18 Hungry Horse	70	67	78	87	92	93	94	93	90	68	28	29	50	169	83
19 Ice Harbor	113	172	141	136	97	146	111	140	180	209	205	341	260	154	171
20 John Day	752	602	683	766	927	964	937	867	824	620	598	884	789	699	802
21 Kerr	46	47	53	105	111	82	140	71	84	50	69	145	178	159	103
22 La Grande	63	63	0	0	0	63	39	29	56	62	0	63	27	33	34
23 Libby	205	178	168	113	213	190	86	85	84	84	83	320	266	400	184
24 Little Falls	11	8.6	14	12	12	20	7.4	10	18	34	33	32	35	14	18
25 Little Goose	144	178	156	140	101	148	117	131	177	260	323	554	304	170	205
26 Long Lake	28	22	34	30	30	47	18	23	40	72	72	72	72	35	42
27 Lower Baker	71	66	16	9.6	28	59	15	12	1.4	19	34	64	67	59	36
28 Lower Granite	118	180	161	136	101	148	117	131	178	252	326	549	302	116	199
29 Lower Monumental	83	174	147	138	97	148	113	144	184	271	327	546	307	123	198
30 Mayfield	89	20	41	55	55	169	68	49	70	70	70	8.4	120	69	69
31 McNary	367	291	478	531	612	636	625	576	526	374	349	555	459	356	503
32 Merwin	40	17	20	26	64	124	41	35	66	109	60	29	65	33	51
33 Monroe Street	6.6	5.3	11	9.2	9	12	4.6	5.9	12	14	14	14	14	11	10
34 Mossyrock	168	37	72	88	88	252	63	32	52	55	30	0	224	126	96
35 Nine Mile	6.4	5.2	9.7	8.5	8.3	10	4.4	6.1	14	22	21	20	21	9.9	12
36 North Fork	9	8.4	9.5	7.9	6.5	19	9.9	18	35	54	47	54	43	15	23
37 Noxon	62	51	54	94	99	86	114	67	86	81	113	279	293	170	125
38 Oak Grove	17	11	27	22	14	26	17	18	24	34	34	34	34	25	24
39 Oxbow	78	78	100	102	67	107	82	90	90	127	127	136	82	90	96
40 Pelton	36	35	35	36	38	40	36	36	39	46	54	41	39	36	38
41 Pelton Rereg. Dam	8.5	8.2	6.4	8.5	9	9.5	8.5	8.5	9.4	11	14	9.8	9.2	8.3	9.0
42 Post Falls	2.2	1.4	5.2	4.5	4.3	6.4	1.9	2.5	8.9	15	14	13	15	4.6	6.9
43 Priest Rapids	336	337	323	404	520	525	542	447	375	152	105	183	242	293	360
44 River Mill	4.6	4.3	4.9	4.1	3.3	9.7	5.1	9.5	18	23	23	22	20	7.7	11
45 Rock Island PH#1	188	169	142	165	184	183	184	172	155	75	138	186	190	189	170
46 Rock Island PH#2	131	139	109	133	173	170	179	144	120	54	81	136	111	100	132
47 Rocky Reach	652	546	417	519	658	649	672	562	475	205	390	507	516	559	536
48 Ross	194	105	23	32	46	119	166	107	27	42	42	69	73	69	77
49 Round Butte	91	87	86	91	95	99	89	89	99	102	140	103	98	88	96
50 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
51 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
52 The Dalles	499	399	555	604	719	760	750	698	644	477	430	641	570	487	610
53 Thompson Falls	29	28	31	46	48	39	52	36	44	33	44	84	81	65	49
54 Upper Baker	82	22	22	4.4	30	54	8.4	9	0	55	34	43	88	61	35
55 Upper Falls	5.7	4.6	9	8	7.9	9.5	4.1	5.1	9.8	9.4	8.8	8.7	9.3	8.9	7.9
56 Wanapum	411	312	268	350	479	483	502	399	324	106	130	341	343	330	358
57 Wells	429	332	269	330	427	415	428	354	304	110	231	366	325	360	345
58 Yale	47	19	25	9.6	110	120	53	32	60	106	81	0	108	42	57
Total Regulated Hydro w/Enc.	11727	9503	8585	9975	11829	12938	12054	10336	9486	7222	8358	12911	12039	11183	10821

-Total Regulated Hydro w/Enc.-

Continued

Table A-3: Regional Regulated Hydro Projects
 PNW Loads and Resource Study
 2016 - 2017 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
59 Federal System	7138	5889	5541	6134	7372	7498	7222	6364	5824	3870	4798	7963	6576	6745	6513
60 Public Entities	2462	1827	1266	1816	2053	2675	2493	1941	1554	1179	1289	2033	2524	2052	1984
61 Investor-Owned Entities	1681	1394	1445	1618	1893	2254	1817	1590	1726	1985	2001	2546	2563	1998	1917
62 Other Entities	446	394	333	407	510	511	522	441	382	188	270	369	376	388	408
63 Total Regulated Hydro w/Enc.	11727	9503	8585	9975	11829	12938	12054	10336	9486	7222	8358	12911	12039	11183	10821

Table A-3: Regional Regulated Hydro Projects
PNW Loads and Resource Study
2017 - 2018 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Regulated Hydro Projects-</i>															
1 Albeni Falls	22	18	21	39	26	18	20	15	18	21	27	40	44	40	27
2 Alder	51	43	0	0	0	44	20	12	25	30	0	43	17	22	21
3 Bonneville	196	142	439	478	555	569	570	540	523	273	138	369	300	195	409
4 Boundary	177	144	175	419	323	228	260	184	233	274	404	521	740	429	335
5 Box Canyon	29	24	29	61	49	36	40	30	37	42	60	71	69	59	47
6 Brownlee	187	187	236	233	162	276	212	232	228	322	326	346	209	224	239
7 Cabinet Gorge	44	33	37	63	66	57	77	45	57	50	80	193	200	116	85
8 Chelan	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
9 Chief Joseph	1473	1110	838	1033	1343	1244	1348	1117	954	541	789	1225	985	1201	1105
10 Cushman 1	44	39	0	0	0	34	25	15	0	0	0	26	0	0	12
11 Cushman 2	77	74	0	0	0	71	61	42	0	0	0	61	0	0	26
12 Diablo	172	112	34	35	41	111	157	119	36	58	59	93	105	86	85
13 Dworshak	434	412	184	52	51	51	51	51	51	51	53	71	285	451	149
14 Faraday	8.1	7.5	8.6	7.1	5.8	17	8.9	17	31	43	42	40	38	14	20
15 Gorge	182	125	43	43	49	127	167	130	48	73	73	114	129	112	99
16 Grand Coulee	2661	1964	1490	1883	2437	2207	2320	1808	1421	751	1121	1840	1657	2182	1877
17 Hells Canyon	150	150	192	196	130	208	160	176	180	250	258	282	174	176	190
18 Hungry Horse	70	67	78	87	92	93	94	93	90	68	28	29	50	169	83
19 Ice Harbor	113	172	141	136	97	146	111	140	180	209	205	341	260	154	171
20 John Day	752	602	683	766	927	927	937	867	824	630	598	884	789	699	799
21 Kerr	46	47	53	105	111	82	140	71	84	50	69	145	178	159	103
22 La Grande	63	63	0	0	0	63	39	29	56	62	0	63	27	33	34
23 Libby	205	178	168	113	213	190	86	85	84	84	83	320	266	400	184
24 Little Falls	11	8.6	14	12	12	20	7.4	10	18	34	33	32	35	14	18
25 Little Goose	144	178	156	140	101	148	117	131	177	260	323	554	304	170	205
26 Long Lake	28	22	34	30	30	47	18	23	40	72	72	72	72	35	42
27 Lower Baker	71	66	16	9.6	28	59	15	12	1.4	19	34	64	67	59	36
28 Lower Granite	118	180	161	136	101	148	117	131	178	252	326	549	302	116	199
29 Lower Monumental	83	174	147	138	97	148	113	144	184	271	327	546	307	123	198
30 Mayfield	89	20	41	55	55	169	68	49	70	70	70	8.4	120	69	69
31 McNary	367	291	478	531	612	611	625	576	526	373	349	555	459	356	501
32 Merwin	40	17	20	26	64	124	41	35	66	109	60	29	65	33	51
33 Monroe Street	6.6	5.3	11	9.2	9	12	4.6	5.9	12	14	14	14	14	11	10
34 Mossyrock	168	37	72	88	88	252	63	32	52	55	30	0	224	126	96
35 Nine Mile	6.4	5.2	9.7	8.5	8.3	10	4.4	6.1	14	22	21	20	21	9.9	12
36 North Fork	9	8.4	9.5	7.9	6.5	19	9.9	18	35	54	47	54	43	15	23
37 Noxon	62	51	54	94	99	86	114	67	86	81	113	279	293	170	125
38 Oak Grove	17	11	27	22	14	26	17	18	24	34	34	34	34	25	24
39 Oxbow	78	78	100	102	67	107	82	90	90	127	127	136	82	90	96
40 Pelton	36	35	35	36	38	40	36	36	39	46	54	41	39	36	38
41 Pelton Rereg. Dam	8.5	8.2	6.4	8.5	9	9.5	8.5	8.5	9.4	11	14	9.8	9.2	8.3	9.0
42 Post Falls	2.2	1.4	5.2	4.5	4.3	6.4	1.9	2.5	8.9	15	14	13	15	4.6	6.9
43 Priest Rapids	336	337	323	404	520	502	542	447	375	209	105	183	242	293	360
44 River Mill	4.6	4.3	4.9	4.1	3.3	9.7	5.1	9.5	18	23	23	22	20	7.7	11
45 Rock Island PH#1	188	169	142	165	184	180	184	172	155	98	138	186	190	189	170
46 Rock Island PH#2	131	139	109	133	173	162	179	144	120	64	81	136	111	100	131
47 Rocky Reach	652	546	417	519	658	620	672	562	475	274	390	507	516	559	536
48 Ross	194	105	23	32	46	119	166	107	27	42	42	69	73	69	77
49 Round Butte	91	87	86	91	95	99	89	89	99	102	140	103	98	88	96
50 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
51 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
52 The Dalles	499	399	555	604	719	732	750	698	644	478	430	641	570	487	608
53 Thompson Falls	29	28	31	46	48	39	52	36	44	33	44	84	81	65	49
54 Upper Baker	82	22	22	4.4	30	54	8.4	9	0	55	34	43	88	61	35
55 Upper Falls	5.7	4.6	9	8	7.9	9.5	4.1	5.1	9.8	9.4	8.8	8.7	9.3	8.9	7.9
56 Wanapum	411	312	268	350	479	456	502	399	324	153	130	341	343	330	358
57 Wells	429	332	269	330	427	396	428	354	304	156	231	366	325	360	345
58 Yale	47	19	25	9.6	110	120	53	32	60	106	81	0	108	42	57
Total Regulated Hydro w/Enc.	11727	9503	8585	9975	11829	12561	12089	10368	9517	7869	8358	12911	12039	11183	10824

-Total Regulated Hydro w/Enc.-

Continued

Table A-3: Regional Regulated Hydro Projects
 PNW Loads and Resource Study
 2017 - 2018 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
59 Federal System	7138	5889	5541	6134	7372	7232	7257	6396	5855	4263	4798	7963	6576	6745	6514
60 Public Entities	2462	1827	1266	1816	2053	2614	2493	1941	1554	1317	1289	2033	2524	2052	1985
61 Investor-Owned Entities	1681	1394	1445	1618	1893	2225	1817	1590	1726	2053	2001	2546	2563	1998	1917
62 Other Entities	446	394	333	407	510	490	522	441	382	236	270	369	376	388	408
63 Total Regulated Hydro w/Enc.	11727	9503	8585	9975	11829	12561	12089	10368	9517	7869	8358	12911	12039	11183	10824

Table A-3: Regional Regulated Hydro Projects
PNW Loads and Resource Study
2018 - 2019 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Regulated Hydro Projects-</i>															
1 Albeni Falls	22	18	21	39	26	18	20	15	18	21	27	40	44	40	27
2 Alder	51	43	0	0	0	44	20	12	25	30	0	43	17	22	21
3 Bonneville	196	142	439	478	555	586	570	540	523	229	138	369	300	195	408
4 Boundary	177	144	175	419	323	228	260	184	233	274	404	521	740	429	335
5 Box Canyon	29	24	29	61	49	36	40	30	37	42	60	71	69	59	47
6 Brownlee	187	187	236	233	162	276	212	232	228	322	326	346	209	224	239
7 Cabinet Gorge	44	33	37	63	66	57	77	45	57	50	80	193	200	116	85
8 Chelan	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
9 Chief Joseph	1473	1110	838	1033	1343	1307	1348	1117	954	404	789	1225	985	1201	1105
10 Cushman 1	44	39	0	0	0	34	25	15	0	0	0	26	0	0	12
11 Cushman 2	77	74	0	0	0	71	61	42	0	0	0	61	0	0	26
12 Diablo	172	112	34	35	41	111	157	119	36	58	59	93	105	86	85
13 Dworshak	434	412	184	52	51	51	51	51	51	51	53	71	285	451	149
14 Faraday	8.1	7.5	8.6	7.1	5.8	17	8.9	17	31	43	42	40	38	14	20
15 Gorge	182	125	43	43	49	127	167	130	48	73	73	114	129	112	99
16 Grand Coulee	2661	1964	1490	1883	2437	2304	2285	1777	1390	549	1121	1840	1657	2182	1869
17 Hells Canyon	150	150	192	196	130	208	160	176	180	250	258	282	174	176	190
18 Hungry Horse	70	67	78	87	92	93	94	93	90	68	28	29	50	169	83
19 Ice Harbor	113	172	141	136	97	146	111	140	180	209	205	341	260	154	171
20 John Day	752	602	683	766	927	964	937	867	824	620	598	884	789	699	802
21 Kerr	46	47	53	105	111	82	140	71	84	50	69	145	178	159	103
22 La Grande	63	63	0	0	0	63	39	29	56	62	0	63	27	33	34
23 Libby	205	178	168	113	213	190	86	85	84	84	83	320	266	400	184
24 Little Falls	11	8.6	14	12	12	20	7.4	10	18	34	33	32	35	14	18
25 Little Goose	144	178	156	140	101	148	117	131	177	260	323	554	304	170	205
26 Long Lake	28	22	34	30	30	47	18	23	40	72	72	72	72	35	42
27 Lower Baker	71	66	16	9.6	28	59	15	12	1.4	19	34	64	67	59	36
28 Lower Granite	118	180	161	136	101	148	117	131	178	252	326	549	302	116	199
29 Lower Monumental	83	174	147	138	97	148	113	144	184	271	327	546	307	123	198
30 Mayfield	89	20	41	55	55	169	68	49	70	70	70	8.4	120	69	69
31 McNary	367	291	478	531	612	636	625	576	526	374	349	555	459	356	503
32 Merwin	40	17	20	26	64	124	41	35	66	109	60	29	65	33	51
33 Monroe Street	6.6	5.3	11	9.2	9	12	4.6	5.9	12	14	14	14	14	11	10
34 Mossyrock	168	37	72	88	88	252	63	32	52	55	30	0	224	126	96
35 Nine Mile	6.4	5.2	9.7	8.5	8.3	10	4.4	6.1	14	22	21	20	21	9.9	12
36 North Fork	9	8.4	9.5	7.9	6.5	19	9.9	18	35	54	47	54	43	15	23
37 Noxon	62	51	54	94	99	86	114	67	86	81	113	279	293	170	125
38 Oak Grove	17	11	27	22	14	26	17	18	24	34	34	34	34	25	24
39 Oxbow	78	78	100	102	67	107	82	90	90	127	127	136	82	90	96
40 Pelton	36	35	35	36	38	40	36	36	39	46	54	41	39	36	38
41 Pelton Rereg. Dam	8.5	8.2	6.4	8.5	9	9.5	8.5	8.5	9.4	11	14	9.8	9.2	8.3	9.0
42 Post Falls	2.2	1.4	5.2	4.5	4.3	6.4	1.9	2.5	8.9	15	14	13	15	4.6	6.9
43 Priest Rapids	336	337	323	404	520	525	542	447	375	152	105	183	242	293	360
44 River Mill	4.6	4.3	4.9	4.1	3.3	9.7	5.1	9.5	18	23	23	22	20	7.7	11
45 Rock Island PH#1	188	169	142	165	184	183	184	172	155	75	138	186	190	189	170
46 Rock Island PH#2	131	139	109	133	173	170	179	144	120	54	81	136	111	100	132
47 Rocky Reach	652	546	417	519	658	649	672	562	475	205	390	507	516	559	536
48 Ross	194	105	23	32	46	119	166	107	27	42	42	69	73	69	77
49 Round Butte	91	87	86	91	95	99	89	89	99	102	140	103	98	88	96
50 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
51 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
52 The Dalles	499	399	555	604	719	760	750	698	644	477	430	641	570	487	610
53 Thompson Falls	29	28	31	46	48	39	52	36	44	33	44	84	81	65	49
54 Upper Baker	82	22	22	4.4	30	54	8.4	9	0	55	34	43	88	61	35
55 Upper Falls	5.7	4.6	9	8	7.9	9.5	4.1	5.1	9.8	9.4	8.8	8.7	9.3	8.9	7.9
56 Wanapum	411	312	268	350	479	483	502	399	324	106	130	341	343	330	358
57 Wells	429	332	269	330	427	415	428	354	304	110	231	366	325	360	345
58 Yale	47	19	25	9.6	110	120	53	32	60	106	81	0	108	42	57
Total Regulated Hydro w/Enc.	11727	9503	8585	9975	11829	12938	12054	10336	9486	7222	8358	12911	12039	11183	10821

-Total Regulated Hydro w/Enc.-

Continued

Table A-3: Regional Regulated Hydro Projects
 PNW Loads and Resource Study
 2018 - 2019 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
59 Federal System	7138	5889	5541	6134	7372	7498	7222	6364	5824	3870	4798	7963	6576	6745	6513
60 Public Entities	2462	1827	1266	1816	2053	2675	2493	1941	1554	1179	1289	2033	2524	2052	1984
61 Investor-Owned Entities	1681	1394	1445	1618	1893	2254	1817	1590	1726	1985	2001	2546	2563	1998	1917
62 Other Entities	446	394	333	407	510	511	522	441	382	188	270	369	376	388	408
63 Total Regulated Hydro w/Enc.	11727	9503	8585	9975	11829	12938	12054	10336	9486	7222	8358	12911	12039	11183	10821

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Table A-4
Independent Hydro Projects
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2009 - 2010 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Independent Hydro Projects-</i>															
1 American Falls	0	0	9.2	15	0	0	0	0	6.7	28	28	71	75	82	24
2 Anderson Ranch	34	31	10	6.3	6.2	6.2	6.2	6.2	6.2	6.3	6.5	34	33	32	16
3 Ashton	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
4 Bend Power Dam	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
5 Big Cliff	5.9	5.9	8.1	11	13	6.6	7.1	5.9	7.4	8.8	8.8	21	21	7.2	10
6 Big Fork	3.4	3.4	2.4	3.3	3.4	2.6	4.3	3.1	4.1	4.5	4.5	4.3	4.4	4.1	3.7
7 Black Canyon	7.5	7.5	4	9	5.9	7.1	8.8	4.8	7.9	10	10	10	8.1	7.5	7.6
8 Bliss	48	48	40	52	44	42	41	46	46	55	55	40	41	40	45
9 Boise River Diversion	3	3	2.1	0.4	0	0	0	0	0	0	2.3	3	2.6	3	1.3
10 Bonneville Fishway	24	24	24	24	12	12	12	24	24	24	24	24	24	24	21
11 Callispel Creek	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0.3
12 Carmen-Smith	17	17	16	14	13	16	14	14	17	17	17	17	17	17	16
13 Cascade	11	11	10	9.0	8.9	8.8	8.7	8.6	8.5	8.0	8.0	7.7	7.6	9.0	8.8
14 Cedar Falls & Newhalem	5.5	4.5	4.4	2.1	1.3	9.1	9.9	11	16	10	13	16	30	8.9	10
15 Chandler	5.2	5.2	4.1	6.7	12	13	9.5	9.3	13	10	10	8.4	8.1	4.6	8.6
16 CJ Strike	50	50	45	63	56	54	52	59	59	68	68	48	46	42	53
17 Clear Lake	2.2	2.2	2	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.8	1.8
18 Cougar	9.2	9.2	26	26	25	6.4	4.7	6.5	7.3	8.3	29	29	29	12	17
19 Cowlitz Falls	12	9.1	8.1	6.2	3.1	23	10	14	33	46	50	64	66	29	26
20 Detroit	26	26	34	45	48	21	22	18	25	35	37	102	95	32	42
21 Dexter	11	11	4.6	9.8	16	3.9	3.8	4.6	4.6	10	16	17	17	5.8	9.2
22 Eagle Point	0	0	0	0	0.4	0.7	0.7	0.9	0.6	0.7	0.7	0.5	0	0	0.4
23 East Side	0	0	0	2.4	3.0	3	3.3	3.4	3.4	3.4	2.1	1.2	0.9	0	1.9
24 Felt	3.6	3.6	3.8	3.5	3.6	3.1	2.5	2.7	3.4	3.4	3.4	5.1	6.5	4.8	3.8
25 Foster	6.6	6.6	12	10	7.5	10	4.6	10	20	19	18	20	23	6.6	13
26 Gem State Hydro	15	15	11	10	11	12	12	11	15	19	19	18	17	19	14
27 Grace	27	26	22	19	20	19	19	21	22	27	27	27	27	27	23
28 Green Peter	16	16	30	19	17	19	8.2	0.9	34	90	45	59	50	12	28
29 Green Springs - USBR	9.9	8.8	6.5	2.6	3.3	5.2	6.2	5.8	4.9	4.6	4.6	5.0	7.5	9.1	5.8
30 Hellroaring (Big) Creek	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0.2
31 Hills Creek	9.1	9.1	23	24	29	6	6.1	6.1	7.1	12	32	34	34	14	18
32 Hood Street	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
33 Idaho Falls - City Plant	4.9	4.9	3.3	2.1	3.1	4.0	3.1	3.4	4.2	5.3	5.3	6.8	7.1	6.7	4.5
34 Idaho Falls - Lower Plant	5.1	5.1	3.4	2.2	3.3	4.2	3.2	3.5	4.4	5.5	5.5	7.5	7.7	7	4.8
35 Idaho Falls - Upper Plant	5.2	5.2	3.6	2.4	3.4	4.3	3.4	3.7	4.6	5.6	5.6	7.3	7.4	7.0	4.8
36 Island Park	3.3	3.1	1.8	1.5	1.5	1.5	1.7	1.9	1.8	1.8	1.8	3.3	3.9	3.8	2.3
37 Jackson	18	18	20	21	19	80	33	16	42	65	65	74	82	46	43
38 John C Boyle	0	0	0	33	40	45	45	52	78	82	82	28	21	0	35
39 Lake Creek	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
40 Last Chance	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
41 Leaburg	5.3	4.2	3	0	0	7.1	4	12	12	12	12	12	13	10	7.4
42 Lookout Point	44	45	18	38	49	9.8	9.6	12	16	40	66	83	78	26	36
43 Lost Creek	41	40	31	18	19	19	19	13	14	15	16	55	55	46	29
44 Lower Malad	12	12	11	9.8	9.7	9.6	9.4	9.4	9.2	8.7	8.7	8.3	8.2	9.8	9.6
45 Lower Salmon	30	30	26	33	28	27	26	29	28	33	33	25	25	25	28
46 McNary Fishway	9.2	8.6	9.5	9.5	9.5	9.4	3.7	8.9	9.4	9.3	9.3	9.3	9.3	8.7	8.8
47 Mill Creek (WA)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
48 Milner	0	0	0	0	5.7	9.1	4.7	3.4	0	0	0	0	0	0	1.9
49 Minidoka	28	28	12	12	3.1	9	2.8	2.4	2.2	14	14	30	30	30	15
50 Moyie Springs	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
51 North Umpqua	81	81	75	73	70	74	70	79	81	121	121	147	139	92	92
52 Oneida	7.5	7.0	6.1	5.3	5.4	5.3	5.3	5.8	5.9	7.5	7.5	7.2	7.5	7.2	6.3
53 Packwood	7.8	21	3.9	3	1.6	4.7	2.6	3.2	5.4	9.7	9.7	24	45	25	12
54 Palisades	94	78	69	56	19	16	34	28	22	19	19	97	165	162	65
55 Paris	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
56 Powerdale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Reeder Gulch	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
58 Rogue	32	32	28	27	26	28	25	27	40	50	50	51	51	42	36
59 Roza	13	13	0	3.6	0	5	4	4.3	13	13	13	13	13	13	7.9
60 Shoshone Falls	6.1	6.1	4.9	9.8	11	11	11	13	8.5	9.1	9.1	6	5.7	6.9	8.7
61 Smith Creek	0	0	0.1	1.7	1.2	0.5	0	0.7	0.9	5.7	5.7	36	28	3.9	6.5
62 Snoq. Electron & Nooksack	39	38	35	28	18	56	26	38	59	62	68	68	68	54	46

Table A-4: Regional Independent Hydro Projects
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
63 Soda Creek	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
64 Soda Point Project	3.6	3.3	2.9	2.5	2.6	2.5	2.5	2.8	2.8	3.6	3.6	3.4	3.6	3.4	3
65 South Fork Tolt	9	9	6	5	5	5	5	5	5	5	5	6	8	9	6.1
66 Stone Creek	7.9	7.1	6.2	5.1	4.1	5.3	4.1	4.6	6.9	9	9	9	9	9	6.7
67 Strawberry Creek	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
68 Swan Falls	19	19	16	21	18	17	16	20	18	22	22	16	15	15	18
69 Swift Creek Hydro	0	0	0	0	0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.6
70 The Dalles Fishway	5.1	4.8	4.9	5	5	3.4	3.2	3.2	4.7	4.8	4.8	4.7	4.7	4.9	4.5
71 Thousand Springs	7.9	7.9	7.2	6.4	6.3	6.2	6.1	6.1	6.0	5.6	5.6	5.4	5.4	6.4	6.3
72 Trail Bridge	3.8	3.8	3.5	3.4	3.2	3.3	3	3.2	3.8	3.8	3.8	3.8	2.5	3.8	3.4
73 TW Sullivan	0	0	0	0	0	15	15	15	15	15	15	15	15	15	10
74 Twin Falls	8.0	8.0	8	4.7	10	13	9.5	9.2	0	0	0	0	0	7.7	5.8
75 Upper Malad	7.5	7.5	6.8	6.0	5.9	5.9	5.8	5.8	5.7	5.3	5.3	5.1	5.1	6.0	5.9
76 Upper Salmon 1 & 2	21	21	18	22	18	17	18	20	19	23	23	17	17	17	19
77 Upper Salmon 3 & 4	18	18	15	19	17	16	15	17	16	20	20	14	15	14	16
78 Wallowa Falls	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
79 Waltherville	3.8	3.2	2.6	0	0	5	3.1	8.7	9.5	9.5	9.5	9.5	9.5	7.7	5.7
80 West Side	0	0	0	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.4	0.2	0.2	0	0.3
81 Wynochee	1.2	1.1	2.1	3.6	6.4	7.5	8.0	5.7	3.9	0.8	0.8	0	0	1.5	3.4
82 Yelm	9	9	6	10	10	10	10	10	10	10	10	10	10	8	9.4
Total Independent Hydro w/Enc.	988	969	850	916	836	900	767	821	1003	1278	1321	1618	1698	1229	1077
<i>-Total Independent Hydro W/Enc.-</i>															
83 Federal System	414	391	338	336	297	211	188	186	275	402	438	730	784	496	390
84 Public Entities	113	121	106	99	94	183	120	121	165	180	183	241	278	174	157
85 Investor-Owned Entities	461	457	407	482	446	505	458	512	562	694	699	646	634	558	530
86 Other Entities	0	0	0	0	0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.6
87 Total Independent Hydro w/Enc.	988	969	850	916	836	900	767	821	1003	1278	1321	1618	1698	1229	1077

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2010 - 2011 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Independent Hydro Projects-</i>															
1 American Falls	0	0	9.2	15	0	0	0	0	6.7	28	28	71	75	82	24
2 Anderson Ranch	34	31	10	6.3	6.2	6.2	6.2	6.2	6.2	6.3	6.5	34	33	32	16
3 Arrowrock Hydro	0	0	0	0	0	2.3	2.3	2.3	2.3	2.4	2.4	13	12	12	4.1
4 Ashton	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
5 Bend Power Dam	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
6 Big Cliff	5.9	5.9	8.1	11	13	6.6	7.1	5.9	7.4	8.8	8.8	21	21	7.2	10
7 Big Fork	3.4	3.4	2.4	3.3	3.4	2.6	4.3	3.1	4.1	4.5	4.5	4.3	4.4	4.1	3.7
8 Black Canyon	7.5	7.5	4	9	5.9	7.1	8.8	4.8	7.9	10	10	10	8.1	7.5	7.6
9 Bliss	48	48	40	52	44	42	41	46	46	55	55	40	41	40	45
10 Boise River Diversion	3	3	2.1	0.4	0	0	0	0	0	0	2.3	3	2.6	3	1.3
11 Bonneville Fishway	24	24	24	24	12	12	12	24	24	24	24	24	24	24	21
12 Calispel Creek	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0.3
13 Carmen-Smith	17	17	16	14	13	16	14	14	17	17	17	17	17	17	16
14 Cascade	11	11	10	9.0	8.9	8.8	8.7	8.6	8.5	8.0	8.0	7.7	7.6	9.0	8.8
15 Cedar Falls & Newhalem	5.5	4.5	4.4	2.1	1.3	9.1	9.9	11	16	10	13	16	30	8.9	10
16 Chandler	5.2	5.2	4.1	6.7	12	13	9.5	9.3	13	10	10	8.4	8.1	4.6	8.6
17 CJ Strike	50	50	45	63	56	54	52	59	59	68	68	48	46	42	53
18 Clear Lake	2.2	2.2	2	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.8	1.8
19 Cougar	9.2	9.2	26	26	25	6.4	4.7	6.5	7.3	8.3	29	29	29	12	17
20 Cowlitz Falls	12	9.1	8.1	6.2	3.1	23	10	14	33	46	50	64	66	29	26
21 Detroit	26	26	34	45	48	21	22	18	25	35	37	102	95	32	42
22 Dexter	11	11	4.6	9.8	16	3.9	3.8	4.6	4.6	10	16	17	17	5.8	9.2
23 Eagle Point	0	0	0	0	0.4	0.7	0.7	0.9	0.6	0.7	0.7	0.5	0	0	0.4
24 East Side	0	0	0	2.4	3.0	3	0	0	0	0	0	0	0	0	0.7
25 Felt	3.6	3.6	3.8	3.5	3.6	3.1	2.5	2.7	3.4	3.4	3.4	5.1	6.5	4.8	3.8
26 Foster	6.6	6.6	12	10	7.5	10	4.6	10	20	19	18	20	23	6.6	13
27 Gem State Hydro	15	15	11	10	11	12	12	11	15	19	19	18	17	19	14
28 Grace	27	26	22	19	20	19	19	21	22	27	27	27	27	27	23
29 Green Peter	16	16	30	19	17	19	8.2	0.9	34	90	45	59	50	12	28
30 Green Springs - USBR	9.9	8.8	6.5	2.6	3.3	5.2	6.2	5.8	4.9	4.6	4.6	5.0	7.5	9.1	5.8
31 Hellroaring (Big) Creek	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0.2
32 Hills Creek	9.1	9.1	23	24	29	6	6.1	6.1	7.1	12	32	34	34	14	18
33 Hood Street	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
34 Idaho Falls - City Plant	4.9	4.9	3.3	2.1	3.1	4.0	3.1	3.4	4.2	5.3	5.3	6.8	7.1	6.7	4.5
35 Idaho Falls - Lower Plant	5.1	5.1	3.4	2.2	3.3	4.2	3.2	3.5	4.4	5.5	5.5	7.5	7.7	7	4.8
36 Idaho Falls - Upper Plant	5.2	5.2	3.6	2.4	3.4	4.3	3.4	3.7	4.6	5.6	5.6	7.3	7.4	7.0	4.8
37 Island Park	3.3	3.1	1.8	1.5	1.5	1.5	1.7	1.9	1.8	1.8	1.8	3.3	3.9	3.8	2.3
38 Jackson	18	18	20	21	19	80	33	16	42	65	65	74	82	46	43
39 John C Boyle	0	0	0	33	40	45	45	52	78	82	82	28	21	0	35
40 Lake Creek	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
41 Last Chance	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
42 Leaburg	5.3	4.2	3	0	0	7.1	4	12	12	12	12	12	13	10	7.4
43 Lookout Point	44	45	18	38	49	9.8	9.6	12	16	40	66	83	78	26	36
44 Lost Creek	41	40	31	18	19	19	19	13	14	15	16	55	55	46	29
45 Lower Malad	12	12	11	9.8	9.7	9.6	9.4	9.4	9.2	8.7	8.7	8.3	8.2	9.8	9.6
46 Lower Salmon	30	30	26	33	28	27	26	29	28	33	33	25	25	25	28
47 McNary Fishway	9.2	8.6	9.5	9.5	9.5	9.4	3.7	8.9	9.4	9.3	9.3	9.3	9.3	8.7	8.8
48 Mill Creek (WA)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
49 Milner	0	0	0	0	5.7	9.1	4.7	3.4	0	0	0	0	0	0	1.9
50 Minidoka	28	28	12	12	3.1	9	2.8	2.4	2.2	14	14	30	30	30	15
51 Moyie Springs	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
52 North Umpqua	81	81	75	73	70	74	70	79	81	121	121	147	139	92	92
53 Oneida	7.5	7.0	6.1	5.3	5.4	5.3	5.3	5.8	5.9	7.5	7.5	7.2	7.5	7.2	6.3
54 Packwood	7.8	21	3.9	3	1.6	4.7	2.6	3.2	5.4	9.7	9.7	24	45	25	12
55 Palisades	94	78	69	56	19	16	34	28	22	19	19	97	165	162	65
56 Paris	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
57 Powerdale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58 Reeder Gulch	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
59 Rogue	32	32	28	27	26	28	25	27	40	50	50	51	51	42	36
60 Roza	13	13	0	3.6	0	5	4	4.3	13	13	13	13	13	13	7.9
61 Shoshone Falls	6.1	6.1	4.9	9.8	11	11	11	13	8.5	9.1	9.1	6	5.7	6.9	8.7
62 Smith Creek	0	0	0.1	1.7	1.2	0.5	0	0.7	0.9	5.7	5.7	36	28	3.9	6.5

Table A-4: Regional Independent Hydro Projects
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
63 Snoq. Electron & Nooksack	39	38	35	28	18	56	26	38	59	62	68	68	68	54	46
64 Soda Creek	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
65 Soda Point Project	3.6	3.3	2.9	2.5	2.6	2.5	2.5	2.8	2.8	3.6	3.6	3.4	3.6	3.4	3
66 South Fork Tolt	9	9	6	5	5	5	5	5	5	5	5	6	8	9	6.1
67 Stone Creek	7.9	7.1	6.2	5.1	4.1	5.3	4.1	4.6	6.9	9	9	9	9	9	6.7
68 Strawberry Creek	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
69 Swan Falls	19	19	16	21	18	17	16	20	18	22	22	16	15	15	18
70 Swift Creek Hydro	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
71 The Dalles Fishway	5.1	4.8	4.9	5	5	3.4	3.2	3.2	4.7	4.8	4.8	4.7	4.7	4.9	4.5
72 Thousand Springs	7.9	7.9	7.2	6.4	6.3	6.2	6.1	6.1	6.0	5.6	5.6	5.4	5.4	6.4	6.3
73 Trail Bridge	3.8	3.8	3.5	3.4	3.2	3.3	3	3.2	3.8	3.8	3.8	3.8	2.5	3.8	3.4
74 TW Sullivan	12	10	11	11	11	15	15	15	15	15	15	15	15	15	14
75 Twin Falls	8.0	8.0	8	4.7	10	13	9.5	9.2	0	0	0	0	0	7.7	5.8
76 Upper Malad	7.5	7.5	6.8	6.0	5.9	5.9	5.8	5.8	5.7	5.3	5.3	5.1	5.1	6.0	5.9
77 Upper Salmon 1 & 2	21	21	18	22	18	17	18	20	19	23	23	17	17	17	19
78 Upper Salmon 3 & 4	18	18	15	19	17	16	15	17	16	20	20	14	15	14	16
79 Wallowa Falls	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
80 Walterville	3.8	3.2	2.6	0	0	5	3.1	8.7	9.5	9.5	9.5	9.5	9.5	7.7	5.7
81 West Side	0	0	0	0.4	0.5	0.5	0	0	0	0	0	0	0	0	0.1
82 Wynochee	1.2	1.1	2.1	3.6	6.4	7.5	8.0	5.7	3.9	0.8	0.8	0	0	1.5	3.4
83 Yelm	9	9	6	10	10	10	10	10	10	10	10	10	10	8	9.4
Total Independent Hydro w/Enc.	1000	980	862	928	848	902	765	819	1001	1276	1321	1629	1709	1241	1084
<i>-Total Independent Hydro W/Enc.-</i>															
84 Federal System	414	391	338	336	297	211	188	186	275	402	438	730	784	496	390
85 Public Entities	113	121	106	99	94	185	122	124	167	183	185	254	291	186	161
86 Investor-Owned Entities	472	467	418	493	457	505	454	508	558	690	696	645	633	558	533
87 Other Entities	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
88 Total Independent Hydro w/Enc.	1000	980	862	928	848	902	765	819	1001	1276	1321	1629	1709	1241	1084

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2011 - 2012 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Independent Hydro Projects-</i>															
1 American Falls	0	0	9.2	15	0	0	0	0	6.7	28	28	71	75	82	24
2 Anderson Ranch	34	31	10	6.3	6.2	6.2	6.2	6.2	6.2	6.3	6.5	34	33	32	16
3 Arrowrock Hydro	13	12	3.8	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.4	13	12	12	5.8
4 Ashton	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
5 Bend Power Dam	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
6 Big Cliff	5.9	5.9	8.1	11	13	6.6	7.1	5.9	7.4	8.8	8.8	21	21	7.2	10
7 Big Fork	3.4	3.4	2.4	3.3	3.4	2.6	4.3	3.1	4.1	4.5	4.5	4.3	4.4	4.1	3.7
8 Black Canyon	7.5	7.5	4	9	5.9	7.1	8.8	4.8	7.9	10	10	10	8.1	7.5	7.6
9 Bliss	48	48	40	52	44	42	41	46	46	55	55	40	41	40	45
10 Boise River Diversion	3	3	2.1	0.4	0	0	0	0	0	0	2.3	3	2.6	3	1.3
11 Bonneville Fishway	24	24	24	24	12	12	12	24	24	24	24	24	24	24	21
12 Calispel Creek	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0.3
13 Carmen-Smith	17	17	16	14	13	16	14	14	17	17	17	17	17	17	16
14 Cascade	11	11	10	9.0	8.9	8.8	8.7	8.6	8.5	8.0	8.0	7.7	7.6	9.0	8.8
15 Cedar Falls & Newhalem	5.5	4.5	4.4	2.1	1.3	9.1	9.9	11	16	10	13	16	30	8.9	10
16 Chandler	5.2	5.2	4.1	6.7	12	13	9.5	9.3	13	10	10	8.4	8.1	4.6	8.6
17 CJ Strike	50	50	45	63	56	54	52	59	59	68	68	48	46	42	53
18 Clear Lake	2.2	2.2	2	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.8	1.8
19 Cougar	9.2	9.2	26	26	25	6.4	4.7	6.5	7.3	8.3	29	29	29	12	17
20 Cowlitz Falls	12	9.1	8.1	6.2	3.1	23	10	14	33	46	50	64	66	29	26
21 Detroit	26	26	34	45	48	21	22	18	25	35	37	102	95	32	42
22 Dexter	11	11	4.6	9.8	16	3.9	3.8	4.6	4.6	10	16	17	17	5.8	9.2
23 Eagle Point	0	0	0	0	0.4	0.7	0.7	0.9	0.6	0.7	0.7	0.5	0	0	0.4
24 East Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Felt	3.6	3.6	3.8	3.5	3.6	3.1	2.5	2.7	3.4	3.4	3.4	5.1	6.5	4.8	3.8
26 Foster	6.6	6.6	12	10	7.5	10	4.6	10	20	19	18	20	23	6.6	13
27 Gem State Hydro	15	15	11	10	11	12	12	11	15	19	19	18	17	19	14
28 Grace	27	26	22	19	20	19	19	21	22	27	27	27	27	27	23
29 Green Peter	16	16	30	19	17	19	8.2	0.9	34	90	45	59	50	12	28
30 Green Springs - USBR	9.9	8.8	6.5	2.6	3.3	5.2	6.2	5.8	4.9	4.6	4.6	5.0	7.5	9.1	5.8
31 Hellroaring (Big) Creek	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0.2
32 Hills Creek	9.1	9.1	23	24	29	6	6.1	6.1	7.1	12	32	34	34	14	18
33 Hood Street	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
34 Idaho Falls - City Plant	4.9	4.9	3.3	2.1	3.1	4.0	3.1	3.4	4.2	5.3	5.3	6.8	7.1	6.7	4.5
35 Idaho Falls - Lower Plant	5.1	5.1	3.4	2.2	3.3	4.2	3.2	3.5	4.4	5.5	5.5	7.5	7.7	7	4.8
36 Idaho Falls - Upper Plant	5.2	5.2	3.6	2.4	3.4	4.3	3.4	3.7	4.6	5.6	5.6	7.3	7.4	7.0	4.8
37 Island Park	3.3	3.1	1.8	1.5	1.5	1.5	1.7	1.8	1.8	1.8	1.8	3.3	3.9	3.8	2.3
38 Jackson	18	18	20	21	19	80	33	16	42	65	65	74	82	46	43
39 John C Boyle	0	0	0	33	40	45	45	52	78	82	82	28	21	0	35
40 Lake Creek	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
41 Last Chance	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
42 Leaburg	5.3	4.2	3	0	0	7.1	4	12	12	12	12	12	13	10	7.4
43 Lookout Point	44	45	18	38	49	9.8	9.6	12	16	40	66	83	78	26	36
44 Lost Creek	41	40	31	18	19	19	19	13	14	15	16	55	55	46	29
45 Lower Malad	12	12	11	9.8	9.7	9.6	9.4	9.4	9.2	8.7	8.7	8.3	8.2	9.8	9.6
46 Lower Salmon	30	30	26	33	28	27	26	29	28	33	33	25	25	25	28
47 McNary Fishway	9.2	8.6	9.5	9.5	9.5	9.4	3.7	8.6	9.4	9.3	9.3	9.3	9.3	8.7	8.8
48 Mill Creek (WA)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
49 Milner	0	0	0	0	5.7	9.1	4.7	3.4	0	0	0	0	0	0	1.9
50 Minidoka	28	28	12	12	3.1	9	2.8	2.4	2.2	14	14	30	30	30	15
51 Moyie Springs	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
52 North Umpqua	81	81	75	73	70	74	70	79	81	121	121	147	139	92	92
53 Oneida	7.5	7.0	6.1	5.3	5.4	5.3	5.3	5.6	5.9	7.5	7.5	7.2	7.5	7.2	6.3
54 Packwood	7.8	21	3.9	3	1.6	4.7	2.6	3.2	5.4	9.7	9.7	24	45	25	12
55 Palisades	94	78	69	56	19	16	34	28	22	19	19	97	165	162	65
56 Paris	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
57 Powerdale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58 Reeder Gulch	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
59 Rogue	32	32	28	27	26	28	25	27	40	50	50	51	51	42	36
60 Roza	13	13	0	3.6	0	5	4	4.3	13	13	13	13	13	13	7.9
61 Shoshone Falls	6.1	6.1	4.9	9.8	11	11	11	13	8.5	9.1	9.1	6	5.7	6.9	8.7
62 Smith Creek	0	0	0.1	1.7	1.2	0.5	0	0.7	0.9	5.7	5.7	36	28	3.9	6.5

Table A-4: Regional Independent Hydro Projects
 PNW Loads and Resource Study
 2011 - 2012 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
63 Snoq. Electron & Nooksack	39	38	35	28	18	56	26	38	59	62	68	68	68	54	46
64 Soda Creek	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
65 Soda Point Project	3.6	3.3	2.9	2.5	2.6	2.5	2.5	2.7	2.8	3.6	3.6	3.4	3.6	3.4	3.0
66 South Fork Tolt	9	9	6	5	5	5	5	5	5	5	5	6	8	9	6.1
67 Stone Creek	7.9	7.1	6.2	5.1	4.1	5.3	4.1	4.6	6.9	9	9	9	9	9	6.7
68 Strawberry Creek	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
69 Swan Falls	19	19	16	21	18	17	16	20	18	22	22	16	15	15	18
70 Swift Creek Hydro	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
71 The Dalles Fishway	5.1	4.8	4.9	5	5	3.4	3.2	3	4.7	4.8	4.8	4.7	4.7	4.9	4.4
72 Thousand Springs	7.9	7.9	7.2	6.4	6.3	6.2	6.1	6.1	6.0	5.6	5.6	5.4	5.4	6.4	6.3
73 Trail Bridge	3.8	3.8	3.5	3.4	3.2	3.3	3	3.2	3.8	3.8	3.8	3.8	2.5	3.8	3.4
74 TW Sullivan	12	10	11	11	11	15	15	15	15	15	15	15	15	15	14
75 Twin Falls	8.0	8.0	8	4.7	10	13	9.5	9.2	0	0	0	0	0	7.7	5.8
76 Upper Malad	7.5	7.5	6.8	6.0	5.9	5.9	5.8	5.8	5.7	5.3	5.3	5.1	5.1	6.0	5.9
77 Upper Salmon 1 & 2	21	21	18	22	18	17	18	20	19	23	23	17	17	17	19
78 Upper Salmon 3 & 4	18	18	15	19	17	16	15	17	16	20	20	14	15	14	16
79 Wallowa Falls	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
80 Walterville	3.8	3.2	2.6	0	0	5	3.1	8.7	9.5	9.5	9.5	9.5	9.5	7.7	5.7
81 West Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
82 Wynochee	1.2	1.1	2.1	3.6	6.4	7.5	8.0	5.5	3.9	0.8	0.8	0	0	1.5	3.4
83 Yelm	9	9	6	10	10	10	10	10	10	10	10	10	10	8	9.4
Total Independent Hydro w/Enc.	1013	992	866	928	847	898	765	817	1001	1276	1321	1629	1709	1241	1084
<i>-Total Independent Hydro W/Enc.-</i>															
84 Federal System	414	391	338	329	287	199	179	176	262	385	422	708	762	476	377
85 Public Entities	126	133	109	108	106	198	132	134	181	199	202	276	313	207	174
86 Investor-Owned Entities	472	467	418	490	453	501	454	507	558	690	696	645	633	558	532
87 Other Entities	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
88 Total Independent Hydro w/Enc.	1013	992	866	928	847	898	765	817	1001	1276	1321	1629	1709	1241	1084

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2012 - 2013 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Independent Hydro Projects-</i>															
1 American Falls	0	0	9.2	15	0	0	0	0	6.7	28	28	71	75	82	24
2 Anderson Ranch	34	31	10	6.3	6.2	6.2	6.2	6.2	6.2	6.3	6.5	34	33	32	16
3 Arrowrock Hydro	13	12	3.8	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.4	13	12	12	5.8
4 Ashton	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
5 Bend Power Dam	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
6 Big Cliff	5.9	5.9	8.1	11	13	6.6	7.1	5.9	7.4	8.8	8.8	21	21	7.2	10
7 Big Fork	3.4	3.4	2.4	3.3	3.4	2.6	4.3	3.1	4.1	4.5	4.5	4.3	4.4	4.1	3.7
8 Black Canyon	7.5	7.5	4	9	5.9	7.1	8.8	4.8	7.9	10	10	10	8.1	7.5	7.6
9 Bliss	48	48	40	52	44	42	41	46	46	55	55	40	41	40	45
10 Boise River Diversion	3	3	2.1	0.4	0	0	0	0	0	0	2.3	3	2.6	3	1.3
11 Bonneville Fishway	24	24	24	24	12	12	12	24	24	24	24	24	24	24	21
12 Calispel Creek	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0.3
13 Carmen-Smith	17	17	16	14	13	16	14	14	17	17	17	17	17	17	16
14 Cascade	11	11	10	9.0	8.9	8.8	8.7	8.6	8.5	8.0	8.0	7.7	7.6	9.0	8.8
15 Cedar Falls & Newhalem	5.5	4.5	4.4	2.1	1.3	9.1	9.9	11	16	10	13	16	30	8.9	10
16 Chandler	5.2	5.2	4.1	6.7	12	13	9.5	9.3	13	10	10	8.4	8.1	4.6	8.6
17 CJ Strike	50	50	45	63	56	54	52	59	59	68	68	48	46	42	53
18 Clear Lake	2.2	2.2	2	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.8	1.8
19 Cougar	9.2	9.2	26	26	25	6.4	4.7	6.5	7.3	8.3	29	29	29	12	17
20 Cowlitz Falls	12	9.1	8.1	6.2	3.1	23	10	14	33	46	50	64	66	29	26
21 Detroit	26	26	34	45	48	21	22	18	25	35	37	102	95	32	42
22 Dexter	11	11	4.6	9.8	16	3.9	3.8	4.6	4.6	10	16	17	17	5.8	9.2
23 Eagle Point	0	0	0	0	0.4	0.7	0.7	0.9	0.6	0.7	0.7	0.5	0	0	0.4
24 East Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Felt	3.6	3.6	3.8	3.5	3.6	3.1	2.5	2.7	3.4	3.4	3.4	5.1	6.5	4.8	3.8
26 Foster	6.6	6.6	12	10	7.5	10	4.6	10	20	19	18	20	23	6.6	13
27 Gem State Hydro	15	15	11	10	11	12	12	11	15	19	19	18	17	19	14
28 Grace	27	26	22	19	20	19	19	21	22	27	27	27	27	27	23
29 Green Peter	16	16	30	19	17	19	8.2	0.9	34	90	45	59	50	12	28
30 Green Springs - USBR	9.9	8.8	6.5	2.6	3.3	5.2	6.2	5.8	4.9	4.6	4.6	5.0	7.5	9.1	5.8
31 Hellroaring (Big) Creek	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0.2
32 Hills Creek	9.1	9.1	23	24	29	6	6.1	6.1	7.1	12	32	34	34	14	18
33 Hood Street	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
34 Idaho Falls - City Plant	4.9	4.9	3.3	2.1	3.1	4.0	3.1	3.4	4.2	5.3	5.3	6.8	7.1	6.7	4.5
35 Idaho Falls - Lower Plant	5.1	5.1	3.4	2.2	3.3	4.2	3.2	3.5	4.4	5.5	5.5	7.5	7.7	7	4.8
36 Idaho Falls - Upper Plant	5.2	5.2	3.6	2.4	3.4	4.3	3.4	3.7	4.6	5.6	5.6	7.3	7.4	7.0	4.8
37 Island Park	3.3	3.1	1.8	1.5	1.5	1.5	1.7	1.9	1.8	1.8	1.8	3.3	3.9	3.8	2.3
38 Jackson	18	18	20	21	19	80	33	16	42	65	65	74	82	46	43
39 John C Boyle	0	0	0	33	40	45	45	52	78	82	82	28	21	0	35
40 Lake Creek	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
41 Last Chance	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
42 Leaburg	5.3	4.2	3	0	0	7.1	4	12	12	12	12	12	13	10	7.4
43 Lookout Point	44	45	18	38	49	9.8	9.6	12	16	40	66	83	78	26	36
44 Lost Creek	41	40	31	18	19	19	19	13	14	15	16	55	55	46	29
45 Lower Malad	12	12	11	9.8	9.7	9.6	9.4	9.4	9.2	8.7	8.7	8.3	8.2	9.8	9.6
46 Lower Salmon	30	30	26	33	28	27	26	29	28	33	33	25	25	25	28
47 McNary Fishway	9.2	8.6	9.5	9.5	9.5	9.4	3.7	8.9	9.4	9.3	9.3	9.3	9.3	8.7	8.8
48 Mill Creek (WA)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
49 Milner	0	0	0	0	5.7	9.1	4.7	3.4	0	0	0	0	0	0	1.9
50 Minidoka	28	28	12	12	3.1	9	2.8	2.4	2.2	14	14	30	30	30	15
51 Moyie Springs	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
52 North Umpqua	81	81	75	73	70	74	70	79	81	121	121	147	139	92	92
53 Oneida	7.5	7.0	6.1	5.3	5.4	5.3	5.3	5.8	5.9	7.5	7.5	7.2	7.5	7.2	6.3
54 Packwood	7.8	21	3.9	3	1.6	4.7	2.6	3.2	5.4	9.7	9.7	24	45	25	12
55 Palisades	94	78	69	56	19	16	34	28	22	19	19	97	165	162	65
56 Paris	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
57 Powerdale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58 Reeder Gulch	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
59 Rogue	32	32	28	27	26	28	25	27	40	50	50	51	51	42	36
60 Roza	13	13	0	3.6	0	5	4	4.3	13	13	13	13	13	13	7.9
61 Shoshone Falls	6.1	6.1	4.9	9.8	11	11	11	13	8.5	9.1	9.1	6	5.7	6.9	8.7
62 Smith Creek	0	0	0.1	1.7	1.2	0.5	0	0.7	0.9	5.7	5.7	36	28	3.9	6.5

Table A-4: Regional Independent Hydro Projects
 PNW Loads and Resource Study
 2012 - 2013 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
63 Snoq. Electron & Nooksack	39	38	35	28	18	56	26	38	59	62	68	68	68	54	46
64 Soda Creek	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
65 Soda Point Project	3.6	3.3	2.9	2.5	2.6	2.5	2.5	2.8	2.8	3.6	3.6	3.4	3.6	3.4	3
66 South Fork Tolt	9	9	6	5	5	5	5	5	5	5	5	6	8	9	6.1
67 Stone Creek	7.9	7.1	6.2	5.1	4.1	5.3	4.1	4.6	6.9	9	9	9	9	9	6.7
68 Strawberry Creek	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
69 Swan Falls	19	19	16	21	18	17	16	20	18	22	22	16	15	15	18
70 Swift Creek Hydro	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
71 The Dalles Fishway	5.1	4.8	4.9	5	5	3.4	3.2	3.2	4.7	4.8	4.8	4.7	4.7	4.9	4.5
72 Thousand Springs	7.9	7.9	7.2	6.4	6.3	6.2	6.1	6.1	6.0	5.6	5.6	5.4	5.4	6.4	6.3
73 Trail Bridge	3.8	3.8	3.5	3.4	3.2	3.3	3	3.2	3.8	3.8	3.8	3.8	2.5	3.8	3.4
74 TW Sullivan	12	10	11	11	11	15	15	15	15	15	15	15	15	15	14
75 Twin Falls	8.0	8.0	8	4.7	10	13	9.5	9.2	0	0	0	0	0	7.7	5.8
76 Upper Malad	7.5	7.5	6.8	6.0	5.9	5.9	5.8	5.8	5.7	5.3	5.3	5.1	5.1	6.0	5.9
77 Upper Salmon 1 & 2	21	21	18	22	18	17	18	20	19	23	23	17	17	17	19
78 Upper Salmon 3 & 4	18	18	15	19	17	16	15	17	16	20	20	14	15	14	16
79 Wallowa Falls	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
80 Walterville	3.8	3.2	2.6	0	0	5	3.1	8.7	9.5	9.5	9.5	9.5	9.5	7.7	5.7
81 West Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
82 Wynochee	1.2	1.1	2.1	3.6	6.4	7.5	8.0	5.7	3.9	0.8	0.8	0	0	1.5	3.4
83 Yelm	9	9	6	10	10	10	10	10	10	10	10	10	10	8	9.4
Total Independent Hydro w/Enc.	1013	992	866	928	847	898	765	819	1001	1276	1321	1629	1709	1241	1085
<i>-Total Independent Hydro W/Enc.-</i>															
84 Federal System	399	376	328	329	287	199	179	176	262	385	422	708	762	476	375
85 Public Entities	141	148	120	108	106	198	132	134	181	199	202	276	313	207	177
86 Investor-Owned Entities	472	467	418	490	453	501	454	508	558	690	696	645	633	558	532
87 Other Entities	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
88 Total Independent Hydro w/Enc.	1013	992	866	928	847	898	765	819	1001	1276	1321	1629	1709	1241	1085

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2013 - 2014 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Independent Hydro Projects-</i>															
1 American Falls	0	0	9.2	15	0	0	0	0	6.7	28	28	71	75	82	24
2 Anderson Ranch	34	31	10	6.3	6.2	6.2	6.2	6.2	6.2	6.3	6.5	34	33	32	16
3 Arrowrock Hydro	13	12	3.8	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.4	13	12	12	5.8
4 Ashton	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
5 Bend Power Dam	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
6 Big Cliff	5.9	5.9	8.1	11	13	6.6	7.1	5.9	7.4	8.8	8.8	21	21	7.2	10
7 Big Fork	3.4	3.4	2.4	3.3	3.4	2.6	4.3	3.1	4.1	4.5	4.5	4.3	4.4	4.1	3.7
8 Black Canyon	7.5	7.5	4	9	5.9	7.1	8.8	4.8	7.9	10	10	10	8.1	7.5	7.6
9 Bliss	48	48	40	52	44	42	41	46	46	55	55	40	41	40	45
10 Boise River Diversion	3	3	2.1	0.4	0	0	0	0	0	0	2.3	3	2.6	3	1.3
11 Bonneville Fishway	24	24	24	24	12	12	12	24	24	24	24	24	24	24	21
12 Calispel Creek	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0.3
13 Carmen-Smith	17	17	16	14	13	16	14	14	17	17	17	17	17	17	16
14 Cascade	11	11	10	9.0	8.9	8.8	8.7	8.6	8.5	8.0	8.0	7.7	7.6	9.0	8.8
15 Cedar Falls & Newhalem	5.5	4.5	4.4	2.1	1.3	9.1	9.9	11	16	10	13	16	30	8.9	10
16 Chandler	5.2	5.2	4.1	6.7	12	13	9.5	9.3	13	10	10	8.4	8.1	4.6	8.6
17 CJ Strike	50	50	45	63	56	54	52	59	59	68	68	48	46	42	53
18 Clear Lake	2.2	2.2	2	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.8	1.8
19 Cougar	9.2	9.2	26	26	25	6.4	4.7	6.5	7.3	8.3	29	29	29	12	17
20 Cowlitz Falls	12	9.1	8.1	6.2	3.1	23	10	14	33	46	50	64	66	29	26
21 Detroit	26	26	34	45	48	21	22	18	25	35	37	102	95	32	42
22 Dexter	11	11	4.6	9.8	16	3.9	3.8	4.6	4.6	10	16	17	17	5.8	9.2
23 Eagle Point	0	0	0	0	0.4	0.7	0.7	0.9	0.6	0.7	0.7	0.5	0	0	0.4
24 East Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Felt	3.6	3.6	3.8	3.5	3.6	3.1	2.5	2.7	3.4	3.4	3.4	5.1	6.5	4.8	3.8
26 Foster	6.6	6.6	12	10	7.5	10	4.6	10	20	19	18	20	23	6.6	13
27 Gem State Hydro	15	15	11	10	11	12	12	11	15	19	19	18	17	19	14
28 Grace	27	26	22	19	20	19	19	21	22	27	27	27	27	27	23
29 Green Peter	16	16	30	19	17	19	8.2	0.9	34	90	45	59	50	12	28
30 Green Springs - USBR	9.9	8.8	6.5	2.6	3.3	5.2	6.2	5.8	4.9	4.6	4.6	5.0	7.5	9.1	5.8
31 Hellroaring (Big) Creek	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0.2
32 Hills Creek	9.1	9.1	23	24	29	6	6.1	6.1	7.1	12	32	34	34	14	18
33 Hood Street	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
34 Idaho Falls - City Plant	4.9	4.9	3.3	2.1	3.1	4.0	3.1	3.4	4.2	5.3	5.3	6.8	7.1	6.7	4.5
35 Idaho Falls - Lower Plant	5.1	5.1	3.4	2.2	3.3	4.2	3.2	3.5	4.4	5.5	5.5	7.5	7.7	7	4.8
36 Idaho Falls - Upper Plant	5.2	5.2	3.6	2.4	3.4	4.3	3.4	3.7	4.6	5.6	5.6	7.3	7.4	7.0	4.8
37 Island Park	3.3	3.1	1.8	1.5	1.5	1.5	1.7	1.9	1.8	1.8	1.8	3.3	3.9	3.8	2.3
38 Jackson	18	18	20	21	19	80	33	16	42	65	65	74	82	46	43
39 John C Boyle	0	0	0	33	40	45	45	52	78	82	82	28	21	0	35
40 Lake Creek	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
41 Last Chance	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
42 Leaburg	5.3	4.2	3	0	0	7.1	4	12	12	12	12	12	13	10	7.4
43 Lookout Point	44	45	18	38	49	9.8	9.6	12	16	40	66	83	78	26	36
44 Lost Creek	41	40	31	18	19	19	19	13	14	15	16	55	55	46	29
45 Lower Malad	12	12	11	9.8	9.7	9.6	9.4	9.4	9.2	8.7	8.7	8.3	8.2	9.8	9.6
46 Lower Salmon	30	30	26	33	28	27	26	29	28	33	33	25	25	25	28
47 McNary Fishway	9.2	8.6	9.5	9.5	9.5	9.4	3.7	8.9	9.4	9.3	9.3	9.3	9.3	8.7	8.8
48 Mill Creek (WA)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
49 Milner	0	0	0	0	5.7	9.1	4.7	3.4	0	0	0	0	0	0	1.9
50 Minidoka	28	28	12	12	3.1	9	2.8	2.4	2.2	14	14	30	30	30	15
51 Moyie Springs	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
52 North Umpqua	81	81	75	73	70	74	70	79	81	121	121	147	139	92	92
53 Oneida	7.5	7.0	6.1	5.3	5.4	5.3	5.3	5.8	5.9	7.5	7.5	7.2	7.5	7.2	6.3
54 Packwood	7.8	21	3.9	3	1.6	4.7	2.6	3.2	5.4	9.7	9.7	24	45	25	12
55 Palisades	94	78	69	56	19	16	34	28	22	19	19	97	165	162	65
56 Paris	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
57 Powerdale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58 Reeder Gulch	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
59 Rogue	32	32	28	27	26	28	25	27	40	50	50	51	51	42	36
60 Roza	13	13	0	3.6	0	5	4	4.3	13	13	13	13	13	13	7.9
61 Shoshone Falls	6.1	6.1	4.9	9.8	11	11	11	13	8.5	9.1	9.1	6	5.7	6.9	8.7
62 Smith Creek	0	0	0.1	1.7	1.2	0.5	0	0.7	0.9	5.7	5.7	36	28	3.9	6.5

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2013 - 2014 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
63 Snoq. Electron & Nooksack	39	38	35	28	18	56	26	38	59	62	68	68	68	54	46
64 Soda Creek	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
65 Soda Point Project	3.6	3.3	2.9	2.5	2.6	2.5	2.5	2.8	2.8	3.6	3.6	3.4	3.6	3.4	3
66 South Fork Tolt	9	9	6	5	5	5	5	5	5	5	5	6	8	9	6.1
67 Stone Creek	7.9	7.1	6.2	5.1	4.1	5.3	4.1	4.6	6.9	9	9	9	9	9	6.7
68 Strawberry Creek	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
69 Swan Falls	19	19	16	21	18	17	16	20	18	22	22	16	15	15	18
70 Swift Creek Hydro	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
71 The Dalles Fishway	5.1	4.8	4.9	5	5	3.4	3.2	3.2	4.7	4.8	4.8	4.7	4.7	4.9	4.5
72 Thousand Springs	7.9	7.9	7.2	6.4	6.3	6.2	6.1	6.1	6.0	5.6	5.6	5.4	5.4	6.4	6.3
73 Trail Bridge	3.8	3.8	3.5	3.4	3.2	3.3	3	3.2	3.8	3.8	3.8	3.8	2.5	3.8	3.4
74 TW Sullivan	12	10	11	11	11	15	15	15	15	15	15	15	15	15	14
75 Twin Falls	8.0	8.0	8	4.7	10	13	9.5	9.2	0	0	0	0	0	7.7	5.8
76 Upper Malad	7.5	7.5	6.8	6.0	5.9	5.9	5.8	5.8	5.7	5.3	5.3	5.1	5.1	6.0	5.9
77 Upper Salmon 1 & 2	21	21	18	22	18	17	18	20	19	23	23	17	17	17	19
78 Upper Salmon 3 & 4	18	18	15	19	17	16	15	17	16	20	20	14	15	14	16
79 Wallowa Falls	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
80 Walterville	3.8	3.2	2.6	0	0	5	3.1	8.7	9.5	9.5	9.5	9.5	9.5	7.7	5.7
81 West Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
82 Wynochee	1.2	1.1	2.1	3.6	6.4	7.5	8.0	5.7	3.9	0.8	0.8	0	0	1.5	3.4
83 Yelm	9	9	6	10	10	10	10	10	10	10	10	10	10	8	9.4
Total Independent Hydro w/Enc.	1013	992	866	928	847	898	765	819	1001	1276	1321	1629	1709	1241	1085
<i>-Total Independent Hydro W/Enc.-</i>															
84 Federal System	399	376	328	329	287	199	179	176	262	385	422	708	762	476	375
85 Public Entities	141	148	120	108	106	198	132	134	181	199	202	276	313	207	177
86 Investor-Owned Entities	472	467	418	490	453	501	454	508	558	690	696	645	633	558	532
87 Other Entities	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
88 Total Independent Hydro w/Enc.	1013	992	866	928	847	898	765	819	1001	1276	1321	1629	1709	1241	1085

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2014 - 2015 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Independent Hydro Projects-</i>															
1 American Falls	0	0	9.2	15	0	0	0	0	6.7	28	28	71	75	82	24
2 Anderson Ranch	34	31	10	6.3	6.2	6.2	6.2	6.2	6.2	6.3	6.5	34	33	32	16
3 Arrowrock Hydro	13	12	3.8	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.4	13	12	12	5.8
4 Ashton	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
5 Bend Power Dam	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
6 Big Cliff	5.9	5.9	8.1	11	13	6.6	7.1	5.9	7.4	8.8	8.8	21	21	7.2	10
7 Big Fork	3.4	3.4	2.4	3.3	3.4	2.6	4.3	3.1	4.1	4.5	4.5	4.3	4.4	4.1	3.7
8 Black Canyon	7.5	7.5	4	9	5.9	7.1	8.8	4.8	7.9	10	10	10	8.1	7.5	7.6
9 Bliss	48	48	40	52	44	42	41	46	46	55	55	40	41	40	45
10 Blue River	0	0	0	0	3.2	3.6	3.4	2.1	1.9	2.5	2.5	2.9	2.4	2.6	2.1
11 Boise River Diversion	3	3	2.1	0.4	0	0	0	0	0	0	2.3	3	2.6	3	1.3
12 Bonneville Fishway	24	24	24	24	12	12	12	24	24	24	24	24	24	24	21
13 Calispel Creek	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0.3
14 Carmen-Smith	17	17	16	14	13	16	14	14	17	17	17	17	17	17	16
15 Cascade	11	11	10	9.0	8.9	8.8	8.7	8.6	8.5	8.0	8.0	7.7	7.6	9.0	8.8
16 Cedar Falls & Newhalem	5.5	4.5	4.4	2.1	1.3	9.1	9.9	11	16	10	13	16	30	8.9	10
17 Chandler	5.2	5.2	4.1	6.7	12	13	9.5	9.3	13	10	10	8.4	8.1	4.6	8.6
18 CJ Strike	50	50	45	63	56	54	52	59	59	68	68	48	46	42	53
19 Clear Lake	2.2	2.2	2	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.8	1.8
20 Cougar	9.2	9.2	26	26	25	6.4	4.7	6.5	7.3	8.3	29	29	29	12	17
21 Cowlitz Falls	12	9.1	8.1	6.2	3.1	23	10	14	33	46	50	64	66	29	26
22 Detroit	26	26	34	45	48	21	22	18	25	35	37	102	95	32	42
23 Dexter	11	11	4.6	9.8	16	3.9	3.8	4.6	4.6	10	16	17	17	5.8	9.2
24 Eagle Point	0	0	0	0	0.4	0.7	0.7	0.9	0.6	0.7	0.7	0.5	0	0	0.4
25 East Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Felt	3.6	3.6	3.8	3.5	3.6	3.1	2.5	2.7	3.4	3.4	3.4	5.1	6.5	4.8	3.8
27 Foster	6.6	6.6	12	10	7.5	10	4.6	10	20	19	18	20	23	6.6	13
28 Gem State Hydro	15	15	11	10	11	12	12	11	15	19	19	18	17	19	14
29 Grace	27	26	22	19	20	19	19	21	22	27	27	27	27	27	23
30 Green Peter	16	16	30	19	17	19	8.2	0.9	34	90	45	59	50	12	28
31 Green Springs - USBR	9.9	8.8	6.5	2.6	3.3	5.2	6.2	5.8	4.9	4.6	4.6	5.0	7.5	9.1	5.8
32 Hellroaring (Big) Creek	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0.2
33 Hills Creek	9.1	9.1	23	24	29	6	6.1	6.1	7.1	12	32	34	34	14	18
34 Hood Street	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
35 Idaho Falls - City Plant	4.9	4.9	3.3	2.1	3.1	4.0	3.1	3.4	4.2	5.3	5.3	6.8	7.1	6.7	4.5
36 Idaho Falls - Lower Plant	5.1	5.1	3.4	2.2	3.3	4.2	3.2	3.5	4.4	5.5	5.5	7.5	7.7	7	4.8
37 Idaho Falls - Upper Plant	5.2	5.2	3.6	2.4	3.4	4.3	3.4	3.7	4.6	5.6	5.6	7.3	7.4	7.0	4.8
38 Island Park	3.3	3.1	1.8	1.5	1.5	1.5	1.7	1.9	1.8	1.8	1.8	3.3	3.9	3.8	2.3
39 Jackson	18	18	20	21	19	80	33	16	42	65	65	74	82	46	43
40 John C Boyle	0	0	0	33	40	45	45	52	78	82	82	28	21	0	35
41 Lake Creek	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
42 Last Chance	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
43 Leaburg	5.3	4.2	3	0	0	7.1	4	12	12	12	12	12	13	10	7.4
44 Lookout Point	44	45	18	38	49	9.8	9.6	12	16	40	66	83	78	26	36
45 Lost Creek	41	40	31	18	19	19	19	13	14	15	16	55	55	46	29
46 Lower Malad	12	12	11	9.8	9.7	9.6	9.4	9.4	9.2	8.7	8.7	8.3	8.2	9.8	9.6
47 Lower Salmon	30	30	26	33	28	27	26	29	28	33	33	25	25	25	28
48 McNary Fishway	9.2	8.6	9.5	9.5	9.5	9.4	3.7	8.9	9.4	9.3	9.3	9.3	9.3	8.7	8.8
49 Mill Creek (WA)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
50 Milner	0	0	0	0	5.7	9.1	4.7	3.4	0	0	0	0	0	0	1.9
51 Minidoka	28	28	12	12	3.1	9	2.8	2.4	2.2	14	14	30	30	30	15
52 Moyie Springs	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
53 North Umpqua	81	81	75	73	70	74	70	79	81	121	121	147	139	92	92
54 Oneida	7.5	7.0	6.1	5.3	5.4	5.3	5.3	5.8	5.9	7.5	7.5	7.2	7.5	7.2	6.3
55 Packwood	7.8	21	3.9	3	1.6	4.7	2.6	3.2	5.4	9.7	9.7	24	45	25	12
56 Palisades	94	78	69	56	19	16	34	28	22	19	19	97	165	162	65
57 Paris	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
58 Powerdale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Reeder Gulch	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
60 Rogue	32	32	28	27	26	28	25	27	40	50	50	51	51	42	36
61 Roza	13	13	0	3.6	0	5	4	4.3	13	13	13	13	13	13	7.9
62 Shoshone Falls	6.1	6.1	4.9	9.8	11	11	11	13	8.5	9.1	9.1	6	5.7	6.9	8.7

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2014 - 2015 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
63 Smith Creek	0	0	0.1	1.7	1.2	0.5	0	0.7	0.9	5.7	5.7	36	28	3.9	6.5
64 Snoq. Electron & Nooksack	39	38	35	28	18	56	26	38	59	62	68	68	68	54	46
65 Soda Creek	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
66 Soda Point Project	3.6	3.3	2.9	2.5	2.6	2.5	2.5	2.8	2.8	3.6	3.6	3.4	3.6	3.4	3
67 South Fork Tolt	9	9	6	5	5	5	5	5	5	5	5	6	8	9	6.1
68 Stone Creek	7.9	7.1	6.2	5.1	4.1	5.3	4.1	4.6	6.9	9	9	9	9	9	6.7
69 Strawberry Creek	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
70 Swan Falls	19	19	16	21	18	17	16	20	18	22	22	16	15	15	18
71 Swift Creek Hydro	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
72 The Dalles Fishway	5.1	4.8	4.9	5	5	3.4	3.2	3.2	4.7	4.8	4.8	4.7	4.7	4.9	4.5
73 Thousand Springs	7.9	7.9	7.2	6.4	6.3	6.2	6.1	6.1	6.0	5.6	5.6	5.4	5.4	6.4	6.3
74 Trail Bridge	3.8	3.8	3.5	3.4	3.2	3.3	3	3.2	3.8	3.8	3.8	3.8	2.5	3.8	3.4
75 TW Sullivan	12	10	11	11	11	15	15	15	15	15	15	15	15	15	14
76 Twin Falls	8.0	8.0	8	4.7	10	13	9.5	9.2	0	0	0	0	0	7.7	5.8
77 Upper Malad	7.5	7.5	6.8	6.0	5.9	5.9	5.8	5.8	5.7	5.3	5.3	5.1	5.1	6.0	5.9
78 Upper Salmon 1 & 2	21	21	18	22	18	17	18	20	19	23	23	17	17	17	19
79 Upper Salmon 3 & 4	18	18	15	19	17	16	15	17	16	20	20	14	15	14	16
80 Wallowa Falls	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
81 Walterville	3.8	3.2	2.6	0	0	5	3.1	8.7	9.5	9.5	9.5	9.5	9.5	7.7	5.7
82 West Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Wynochee	1.2	1.1	2.1	3.6	6.4	7.5	8.0	5.7	3.9	0.8	0.8	0	0	1.5	3.4
84 Yelm	9	9	6	10	10	10	10	10	10	10	10	10	10	8	9.4
Total Independent Hydro w/Enc.	1013	992	866	928	850	902	769	821	1003	1278	1324	1632	1712	1244	1087
<i>-Total Independent Hydro W/Enc.-</i>															
85 Federal System	399	376	328	329	287	199	179	176	262	385	422	708	762	476	375
86 Public Entities	141	148	120	108	109	201	135	136	183	202	204	278	315	210	179
87 Investor-Owned Entities	472	467	418	490	453	501	454	508	558	690	696	645	633	558	532
88 Other Entities	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
89 Total Independent Hydro w/Enc.	1013	992	866	928	850	902	769	821	1003	1278	1324	1632	1712	1244	1087

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2015 - 2016 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Independent Hydro Projects-</i>															
1 American Falls	0	0	9.2	15	0	0	0	0	6.7	28	28	71	75	82	24
2 Anderson Ranch	34	31	10	6.3	6.2	6.2	6.2	6.2	6.2	6.3	6.5	34	33	32	16
3 Arrowrock Hydro	13	12	3.8	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.4	13	12	12	5.8
4 Ashton	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
5 Bend Power Dam	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
6 Big Cliff	5.9	5.9	8.1	11	13	6.6	7.1	5.9	7.4	8.8	8.8	21	21	7.2	10
7 Big Fork	3.4	3.4	2.4	3.3	3.4	2.6	4.3	3.1	4.1	4.5	4.5	4.3	4.4	4.1	3.7
8 Black Canyon	7.5	7.5	4	9	5.9	7.1	8.8	4.8	7.9	10	10	10	8.1	7.5	7.6
9 Bliss	48	48	40	52	44	42	41	46	46	55	55	40	41	40	45
10 Blue River	3.4	3.4	2.2	2.2	3.2	3.6	3.4	2.1	1.9	2.5	2.5	2.9	2.4	2.6	2.7
11 Boise River Diversion	3	3	2.1	0.4	0	0	0	0	0	0	2.3	3	2.6	3	1.3
12 Bonneville Fishway	24	24	24	24	12	12	12	24	24	24	24	24	24	24	21
13 Calispel Creek	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0.3
14 Carmen-Smith	17	17	16	14	13	16	14	14	17	17	17	17	17	17	16
15 Cascade	11	11	10	9.0	8.9	8.8	8.7	8.6	8.5	8.0	8.0	7.7	7.6	9.0	8.8
16 Cedar Falls & Newhalem	5.5	4.5	4.4	2.1	1.3	9.1	9.9	11	16	10	13	16	30	8.9	10
17 Chandler	5.2	5.2	4.1	6.7	12	13	9.5	9.3	13	10	10	8.4	8.1	4.6	8.6
18 CJ Strike	50	50	45	63	56	54	52	59	59	68	68	48	46	42	53
19 Clear Lake	2.2	2.2	2	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.8	1.8
20 Cougar	9.2	9.2	26	26	25	6.4	4.7	6.5	7.3	8.3	29	29	29	12	17
21 Cowlitz Falls	12	9.1	8.1	6.2	3.1	23	10	14	33	46	50	64	66	29	26
22 Detroit	26	26	34	45	48	21	22	18	25	35	37	102	95	32	42
23 Dexter	11	11	4.6	9.8	16	3.9	3.8	4.6	4.6	10	16	17	17	5.8	9.2
24 Eagle Point	0	0	0	0	0.4	0.7	0.7	0.9	0.6	0.7	0.7	0.5	0	0	0.4
25 East Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Felt	3.6	3.6	3.8	3.5	3.6	3.1	2.5	2.7	3.4	3.4	3.4	5.1	6.5	4.8	3.8
27 Foster	6.6	6.6	12	10	7.5	10	4.6	10	20	19	18	20	23	6.6	13
28 Gem State Hydro	15	15	11	10	11	12	12	11	15	19	19	18	17	19	14
29 Grace	27	26	22	19	20	19	19	21	22	27	27	27	27	27	23
30 Green Peter	16	16	30	19	17	19	8.2	0.9	34	90	45	59	50	12	28
31 Green Springs - USBR	9.9	8.8	6.5	2.6	3.3	5.2	6.2	5.8	4.9	4.6	4.6	5.0	7.5	9.1	5.8
32 Hellroaring (Big) Creek	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0.2
33 Hills Creek	9.1	9.1	23	24	29	6	6.1	6.1	7.1	12	32	34	34	14	18
34 Hood Street	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
35 Idaho Falls - City Plant	4.9	4.9	3.3	2.1	3.1	4.0	3.1	3.4	4.2	5.3	5.3	6.8	7.1	6.7	4.5
36 Idaho Falls - Lower Plant	5.1	5.1	3.4	2.2	3.3	4.2	3.2	3.5	4.4	5.5	5.5	7.5	7.7	7	4.8
37 Idaho Falls - Upper Plant	5.2	5.2	3.6	2.4	3.4	4.3	3.4	3.7	4.6	5.6	5.6	7.3	7.4	7.0	4.8
38 Island Park	3.3	3.1	1.8	1.5	1.5	1.5	1.7	1.8	1.8	1.8	1.8	3.3	3.9	3.8	2.3
39 Jackson	18	18	20	21	19	80	33	16	42	65	65	74	82	46	43
40 John C Boyle	0	0	0	33	40	45	45	52	78	82	82	28	21	0	35
41 Lake Creek	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
42 Last Chance	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
43 Leaburg	5.3	4.2	3	0	0	7.1	4	12	12	12	12	12	13	10	7.4
44 Lookout Point	44	45	18	38	49	9.8	9.6	12	16	40	66	83	78	26	36
45 Lost Creek	41	40	31	18	19	19	19	13	14	15	16	55	55	46	29
46 Lower Malad	12	12	11	9.8	9.7	9.6	9.4	9.4	9.2	8.7	8.7	8.3	8.2	9.8	9.6
47 Lower Salmon	30	30	26	33	28	27	26	29	28	33	33	25	25	25	28
48 McNary Fishway	9.2	8.6	9.5	9.5	9.5	9.4	3.7	8.6	9.4	9.3	9.3	9.3	9.3	8.7	8.8
49 Mill Creek (WA)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
50 Milner	0	0	0	0	5.7	9.1	4.7	3.4	0	0	0	0	0	0	1.9
51 Minidoka	28	28	12	12	3.1	9	2.8	2.4	2.2	14	14	30	30	30	15
52 Moyie Springs	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
53 North Umpqua	81	81	75	73	70	74	70	79	81	121	121	147	139	92	92
54 Oneida	7.5	7.0	6.1	5.3	5.4	5.3	5.3	5.6	5.9	7.5	7.5	7.2	7.5	7.2	6.3
55 Packwood	7.8	21	3.9	3	1.6	4.7	2.6	3.2	5.4	9.7	9.7	24	45	25	12
56 Palisades	94	78	69	56	19	16	34	28	22	19	19	97	165	162	65
57 Paris	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
58 Powerdale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Reeder Gulch	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
60 Rogue	32	32	28	27	26	28	25	27	40	50	50	51	51	42	36
61 Roza	13	13	0	3.6	0	5	4	4.3	13	13	13	13	13	13	7.9
62 Shoshone Falls	6.1	6.1	4.9	9.8	11	11	11	13	8.5	9.1	9.1	6	5.7	6.9	8.7

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2015 - 2016 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
63 Smith Creek	0	0	0.1	1.7	1.2	0.5	0	0.7	0.9	5.7	5.7	36	28	3.9	6.5
64 Snoq. Electron & Nooksack	39	38	35	28	18	56	26	38	59	62	68	68	68	54	46
65 Soda Creek	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
66 Soda Point Project	3.6	3.3	2.9	2.5	2.6	2.5	2.5	2.7	2.8	3.6	3.6	3.4	3.6	3.4	3.0
67 South Fork Tolt	9	9	6	5	5	5	5	5	5	5	5	6	8	9	6.1
68 Stone Creek	7.9	7.1	6.2	5.1	4.1	5.3	4.1	4.6	6.9	9	9	9	9	9	6.7
69 Strawberry Creek	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
70 Swan Falls	19	19	16	21	18	17	16	20	18	22	22	16	15	15	18
71 Swift Creek Hydro	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
72 The Dalles Fishway	5.1	4.8	4.9	5	5	3.4	3.2	3	4.7	4.8	4.8	4.7	4.7	4.9	4.4
73 Thousand Springs	7.9	7.9	7.2	6.4	6.3	6.2	6.1	6.1	6.0	5.6	5.6	5.4	5.4	6.4	6.3
74 Trail Bridge	3.8	3.8	3.5	3.4	3.2	3.3	3	3.2	3.8	3.8	3.8	3.8	2.5	3.8	3.4
75 TW Sullivan	12	10	11	11	11	15	15	15	15	15	15	15	15	15	14
76 Twin Falls	8.0	8.0	8	4.7	10	13	9.5	9.2	0	0	0	0	0	7.7	5.8
77 Upper Malad	7.5	7.5	6.8	6.0	5.9	5.9	5.8	5.8	5.7	5.3	5.3	5.1	5.1	6.0	5.9
78 Upper Salmon 1 & 2	21	21	18	22	18	17	18	20	19	23	23	17	17	17	19
79 Upper Salmon 3 & 4	18	18	15	19	17	16	15	17	16	20	20	14	15	14	16
80 Wallowa Falls	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
81 Walterville	3.8	3.2	2.6	0	0	5	3.1	8.7	9.5	9.5	9.5	9.5	9.5	7.7	5.7
82 West Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Wynochee	1.2	1.1	2.1	3.6	6.4	7.5	8.0	5.5	3.9	0.8	0.8	0	0	1.5	3.4
84 Yelm	9	9	6	10	10	10	10	10	10	10	10	10	10	8	9.4
Total Independent Hydro w/Enc.	1017	995	868	930	850	902	769	819	1003	1278	1324	1632	1712	1244	1087
<i>-Total Independent Hydro W/Enc.-</i>															
85 Federal System	399	376	328	329	287	199	179	176	262	385	422	708	762	476	375
86 Public Entities	144	151	122	110	109	201	135	136	183	202	204	278	315	210	179
87 Investor-Owned Entities	472	467	418	490	453	501	454	507	558	690	696	645	633	558	532
88 Other Entities	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
89 Total Independent Hydro w/Enc.	1017	995	868	930	850	902	769	819	1003	1278	1324	1632	1712	1244	1087

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PNW Loads and Resource Study
2016 - 2017 Operating Year
1937 Water Year
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7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Independent Hydro Projects-</i>															
1 American Falls	0	0	9.2	15	0	0	0	0	6.7	28	28	71	75	82	24
2 Anderson Ranch	34	31	10	6.3	6.2	6.2	6.2	6.2	6.2	6.3	6.5	34	33	32	16
3 Arrowrock Hydro	13	12	3.8	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.4	13	12	12	5.8
4 Ashton	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
5 Bend Power Dam	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
6 Big Cliff	5.9	5.9	8.1	11	13	6.6	7.1	5.9	7.4	8.8	8.8	21	21	7.2	10
7 Big Fork	3.4	3.4	2.4	3.3	3.4	2.6	4.3	3.1	4.1	4.5	4.5	4.3	4.4	4.1	3.7
8 Black Canyon	7.5	7.5	4	9	5.9	7.1	8.8	4.8	7.9	10	10	10	8.1	7.5	7.6
9 Bliss	48	48	40	52	44	42	41	46	46	55	55	40	41	40	45
10 Blue River	3.4	3.4	2.2	2.2	3.2	3.6	3.4	2.1	1.9	2.5	2.5	2.9	2.4	2.6	2.7
11 Boise River Diversion	3	3	2.1	0.4	0	0	0	0	0	0	2.3	3	2.6	3	1.3
12 Bonneville Fishway	24	24	24	24	12	12	12	24	24	24	24	24	24	24	21
13 Calispel Creek	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0.3
14 Carmen-Smith	17	17	16	14	13	16	14	14	17	17	17	17	17	17	16
15 Cascade	11	11	10	9.0	8.9	8.8	8.7	8.6	8.5	8.0	8.0	7.7	7.6	9.0	8.8
16 Cedar Falls & Newhalem	5.5	4.5	4.4	2.1	1.3	9.1	9.9	11	16	10	13	16	30	8.9	10
17 Chandler	5.2	5.2	4.1	6.7	12	13	9.5	9.3	13	10	10	8.4	8.1	4.6	8.6
18 CJ Strike	50	50	45	63	56	54	52	59	59	68	68	48	46	42	53
19 Clear Lake	2.2	2.2	2	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.8	1.8
20 Cougar	9.2	9.2	26	26	25	6.4	4.7	6.5	7.3	8.3	29	29	29	12	17
21 Cowlitz Falls	12	9.1	8.1	6.2	3.1	23	10	14	33	46	50	64	66	29	26
22 Detroit	26	26	34	45	48	21	22	18	25	35	37	102	95	32	42
23 Dexter	11	11	4.6	9.8	16	3.9	3.8	4.6	4.6	10	16	17	17	5.8	9.2
24 Eagle Point	0	0	0	0	0.4	0.7	0.7	0.9	0.6	0.7	0.7	0.5	0	0	0.4
25 East Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Felt	3.6	3.6	3.8	3.5	3.6	3.1	2.5	2.7	3.4	3.4	3.4	5.1	6.5	4.8	3.8
27 Foster	6.6	6.6	12	10	7.5	10	4.6	10	20	19	18	20	23	6.6	13
28 Gem State Hydro	15	15	11	10	11	12	12	11	15	19	19	18	17	19	14
29 Grace	27	26	22	19	20	19	19	21	22	27	27	27	27	27	23
30 Green Peter	16	16	30	19	17	19	8.2	0.9	34	90	45	59	50	12	28
31 Green Springs - USBR	9.9	8.8	6.5	2.6	3.3	5.2	6.2	5.8	4.9	4.6	4.6	5.0	7.5	9.1	5.8
32 Hellroaring (Big) Creek	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0.2
33 Hills Creek	9.1	9.1	23	24	29	6	6.1	6.1	7.1	12	32	34	34	14	18
34 Hood Street	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
35 Idaho Falls - City Plant	4.9	4.9	3.3	2.1	3.1	4.0	3.1	3.4	4.2	5.3	5.3	6.8	7.1	6.7	4.5
36 Idaho Falls - Lower Plant	5.1	5.1	3.4	2.2	3.3	4.2	3.2	3.5	4.4	5.5	5.5	7.5	7.7	7	4.8
37 Idaho Falls - Upper Plant	5.2	5.2	3.6	2.4	3.4	4.3	3.4	3.7	4.6	5.6	5.6	7.3	7.4	7.0	4.8
38 Island Park	3.3	3.1	1.8	1.5	1.5	1.5	1.7	1.9	1.8	1.8	1.8	3.3	3.9	3.8	2.3
39 Jackson	18	18	20	21	19	80	33	16	42	65	65	74	82	46	43
40 John C Boyle	0	0	0	33	40	45	45	52	78	82	82	28	21	0	35
41 Lake Creek	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
42 Last Chance	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
43 Leaburg	5.3	4.2	3	0	0	7.1	4	12	12	12	12	12	13	10	7.4
44 Lookout Point	44	45	18	38	49	9.8	9.6	12	16	40	66	83	78	26	36
45 Lost Creek	41	40	31	18	19	19	19	13	14	15	16	55	55	46	29
46 Lower Malad	12	12	11	9.8	9.7	9.6	9.4	9.4	9.2	8.7	8.7	8.3	8.2	9.8	9.6
47 Lower Salmon	30	30	26	33	28	27	26	29	28	33	33	25	25	25	28
48 McNary Fishway	9.2	8.6	9.5	9.5	9.5	9.4	3.7	8.9	9.4	9.3	9.3	9.3	9.3	8.7	8.8
49 Mill Creek (WA)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
50 Milner	0	0	0	0	5.7	9.1	4.7	3.4	0	0	0	0	0	0	1.9
51 Minidoka	28	28	12	12	3.1	9	2.8	2.4	2.2	14	14	30	30	30	15
52 Moyie Springs	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
53 North Umpqua	81	81	75	73	70	74	70	79	81	121	121	147	139	92	92
54 Oneida	7.5	7.0	6.1	5.3	5.4	5.3	5.3	5.8	5.9	7.5	7.5	7.2	7.5	7.2	6.3
55 Packwood	7.8	21	3.9	3	1.6	4.7	2.6	3.2	5.4	9.7	9.7	24	45	25	12
56 Palisades	94	78	69	56	19	16	34	28	22	19	19	97	165	162	65
57 Paris	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
58 Powerdale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Reeder Gulch	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
60 Rogue	32	32	28	27	26	28	25	27	40	50	50	51	51	42	36
61 Roza	13	13	0	3.6	0	5	4	4.3	13	13	13	13	13	13	7.9
62 Shoshone Falls	6.1	6.1	4.9	9.8	11	11	11	13	8.5	9.1	9.1	6	5.7	6.9	8.7

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2016 - 2017 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
63 Smith Creek	0	0	0.1	1.7	1.2	0.5	0	0.7	0.9	5.7	5.7	36	28	3.9	6.5
64 Snoq. Electron & Nooksack	39	38	35	28	18	56	26	38	59	62	68	68	68	54	46
65 Soda Creek	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
66 Soda Point Project	3.6	3.3	2.9	2.5	2.6	2.5	2.5	2.8	2.8	3.6	3.6	3.4	3.6	3.4	3
67 South Fork Tolt	9	9	6	5	5	5	5	5	5	5	5	6	8	9	6.1
68 Stone Creek	7.9	7.1	6.2	5.1	4.1	5.3	4.1	4.6	6.9	9	9	9	9	9	6.7
69 Strawberry Creek	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
70 Swan Falls	19	19	16	21	18	17	16	20	18	22	22	16	15	15	18
71 Swift Creek Hydro	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
72 The Dalles Fishway	5.1	4.8	4.9	5	5	3.4	3.2	3.2	4.7	4.8	4.8	4.7	4.7	4.9	4.5
73 Thousand Springs	7.9	7.9	7.2	6.4	6.3	6.2	6.1	6.1	6.0	5.6	5.6	5.4	5.4	6.4	6.3
74 Trail Bridge	3.8	3.8	3.5	3.4	3.2	3.3	3	3.2	3.8	3.8	3.8	3.8	2.5	3.8	3.4
75 TW Sullivan	12	10	11	11	11	15	15	15	15	15	15	15	15	15	14
76 Twin Falls	8.0	8.0	8	4.7	10	13	9.5	9.2	0	0	0	0	0	7.7	5.8
77 Upper Malad	7.5	7.5	6.8	6.0	5.9	5.9	5.8	5.8	5.7	5.3	5.3	5.1	5.1	6.0	5.9
78 Upper Salmon 1 & 2	21	21	18	22	18	17	18	20	19	23	23	17	17	17	19
79 Upper Salmon 3 & 4	18	18	15	19	17	16	15	17	16	20	20	14	15	14	16
80 Wallowa Falls	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
81 Walterville	3.8	3.2	2.6	0	0	5	3.1	8.7	9.5	9.5	9.5	9.5	9.5	7.7	5.7
82 West Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Wynochee	1.2	1.1	2.1	3.6	6.4	7.5	8.0	5.7	3.9	0.8	0.8	0	0	1.5	3.4
84 Yelm	9	9	6	10	10	10	10	10	10	10	10	10	10	8	9.4
Total Independent Hydro w/Enc.	1017	995	868	930	850	902	769	821	1003	1278	1324	1632	1712	1244	1088
<i>-Total Independent Hydro W/Enc.-</i>															
85 Federal System	399	376	328	329	287	199	179	176	262	385	422	708	762	476	375
86 Public Entities	144	151	122	110	109	201	135	136	183	202	204	278	315	210	179
87 Investor-Owned Entities	472	467	418	490	453	501	454	508	558	690	696	645	633	558	532
88 Other Entities	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
89 Total Independent Hydro w/Enc.	1017	995	868	930	850	902	769	821	1003	1278	1324	1632	1712	1244	1088

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2017 - 2018 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Independent Hydro Projects-</i>															
1 American Falls	0	0	9.2	15	0	0	0	0	6.7	28	28	71	75	82	24
2 Anderson Ranch	34	31	10	6.3	6.2	6.2	6.2	6.2	6.2	6.3	6.5	34	33	32	16
3 Arrowrock Hydro	13	12	3.8	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.4	13	12	12	5.8
4 Ashton	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
5 Bend Power Dam	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
6 Big Cliff	5.9	5.9	8.1	11	13	6.6	7.1	5.9	7.4	8.8	8.8	21	21	7.2	10
7 Big Fork	3.4	3.4	2.4	3.3	3.4	2.6	4.3	3.1	4.1	4.5	4.5	4.3	4.4	4.1	3.7
8 Black Canyon	7.5	7.5	4	9	5.9	7.1	8.8	4.8	7.9	10	10	10	8.1	7.5	7.6
9 Bliss	48	48	40	52	44	42	41	46	46	55	55	40	41	40	45
10 Blue River	3.4	3.4	2.2	2.2	3.2	3.6	3.4	2.1	1.9	2.5	2.5	2.9	2.4	2.6	2.7
11 Boise River Diversion	3	3	2.1	0.4	0	0	0	0	0	0	2.3	3	2.6	3	1.3
12 Bonneville Fishway	24	24	24	24	12	12	12	24	24	24	24	24	24	24	21
13 Calispel Creek	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0.3
14 Carmen-Smith	17	17	16	14	13	16	14	14	17	17	17	17	17	17	16
15 Cascade	11	11	10	9.0	8.9	8.8	8.7	8.6	8.5	8.0	8.0	7.7	7.6	9.0	8.8
16 Cedar Falls & Newhalem	5.5	4.5	4.4	2.1	1.3	9.1	9.9	11	16	10	13	16	30	8.9	10
17 Chandler	5.2	5.2	4.1	6.7	12	13	9.5	9.3	13	10	10	8.4	8.1	4.6	8.6
18 CJ Strike	50	50	45	63	56	54	52	59	59	68	68	48	46	42	53
19 Clear Lake	2.2	2.2	2	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.8	1.8
20 Cougar	9.2	9.2	26	26	25	6.4	4.7	6.5	7.3	8.3	29	29	29	12	17
21 Cowlitz Falls	12	9.1	8.1	6.2	3.1	23	10	14	33	46	50	64	66	29	26
22 Detroit	26	26	34	45	48	21	22	18	25	35	37	102	95	32	42
23 Dexter	11	11	4.6	9.8	16	3.9	3.8	4.6	4.6	10	16	17	17	5.8	9.2
24 Eagle Point	0	0	0	0	0.4	0.7	0.7	0.9	0.6	0.7	0.7	0.5	0	0	0.4
25 East Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Felt	3.6	3.6	3.8	3.5	3.6	3.1	2.5	2.7	3.4	3.4	3.4	5.1	6.5	4.8	3.8
27 Foster	6.6	6.6	12	10	7.5	10	4.6	10	20	19	18	20	23	6.6	13
28 Gem State Hydro	15	15	11	10	11	12	12	11	15	19	19	18	17	19	14
29 Grace	27	26	22	19	20	19	19	21	22	27	27	27	27	27	23
30 Green Peter	16	16	30	19	17	19	8.2	0.9	34	90	45	59	50	12	28
31 Green Springs - USBR	9.9	8.8	6.5	2.6	3.3	5.2	6.2	5.8	4.9	4.6	4.6	5.0	7.5	9.1	5.8
32 Hellroaring (Big) Creek	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0.2
33 Hills Creek	9.1	9.1	23	24	29	6	6.1	6.1	7.1	12	32	34	34	14	18
34 Hood Street	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
35 Idaho Falls - City Plant	4.9	4.9	3.3	2.1	3.1	4.0	3.1	3.4	4.2	5.3	5.3	6.8	7.1	6.7	4.5
36 Idaho Falls - Lower Plant	5.1	5.1	3.4	2.2	3.3	4.2	3.2	3.5	4.4	5.5	5.5	7.5	7.7	7	4.8
37 Idaho Falls - Upper Plant	5.2	5.2	3.6	2.4	3.4	4.3	3.4	3.7	4.6	5.6	5.6	7.3	7.4	7.0	4.8
38 Island Park	3.3	3.1	1.8	1.5	1.5	1.5	1.7	1.9	1.8	1.8	1.8	3.3	3.9	3.8	2.3
39 Jackson	18	18	20	21	19	80	33	16	42	65	65	74	82	46	43
40 John C Boyle	0	0	0	33	40	45	45	52	78	82	82	28	21	0	35
41 Lake Creek	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
42 Last Chance	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
43 Leaburg	5.3	4.2	3	0	0	7.1	4	12	12	12	12	12	13	10	7.4
44 Lookout Point	44	45	18	38	49	9.8	9.6	12	16	40	66	83	78	26	36
45 Lost Creek	41	40	31	18	19	19	19	13	14	15	16	55	55	46	29
46 Lower Malad	12	12	11	9.8	9.7	9.6	9.4	9.4	9.2	8.7	8.7	8.3	8.2	9.8	9.6
47 Lower Salmon	30	30	26	33	28	27	26	29	28	33	33	25	25	25	28
48 McNary Fishway	9.2	8.6	9.5	9.5	9.5	9.4	3.7	8.9	9.4	9.3	9.3	9.3	9.3	8.7	8.8
49 Mill Creek (WA)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
50 Milner	0	0	0	0	5.7	9.1	4.7	3.4	0	0	0	0	0	0	1.9
51 Minidoka	28	28	12	12	3.1	9	2.8	2.4	2.2	14	14	30	30	30	15
52 Moyie Springs	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
53 North Umpqua	81	81	75	73	70	74	70	79	81	121	121	147	139	92	92
54 Oneida	7.5	7.0	6.1	5.3	5.4	5.3	5.3	5.8	5.9	7.5	7.5	7.2	7.5	7.2	6.3
55 Packwood	7.8	21	3.9	3	1.6	4.7	2.6	3.2	5.4	9.7	9.7	24	45	25	12
56 Palisades	94	78	69	56	19	16	34	28	22	19	19	97	165	162	65
57 Paris	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
58 Powerdale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Reeder Gulch	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
60 Rogue	32	32	28	27	26	28	25	27	40	50	50	51	51	42	36
61 Roza	13	13	0	3.6	0	5	4	4.3	13	13	13	13	13	13	7.9
62 Shoshone Falls	6.1	6.1	4.9	9.8	11	11	11	13	8.5	9.1	9.1	6	5.7	6.9	8.7

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PNW Loads and Resource Study
2017 - 2018 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
63 Smith Creek	0	0	0.1	1.7	1.2	0.5	0	0.7	0.9	5.7	5.7	36	28	3.9	6.5
64 Snoq. Electron & Nooksack	39	38	35	28	18	56	26	38	59	62	68	68	68	54	46
65 Soda Creek	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
66 Soda Point Project	3.6	3.3	2.9	2.5	2.6	2.5	2.5	2.8	2.8	3.6	3.6	3.4	3.6	3.4	3
67 South Fork Tolt	9	9	6	5	5	5	5	5	5	5	5	6	8	9	6.1
68 Stone Creek	7.9	7.1	6.2	5.1	4.1	5.3	4.1	4.6	6.9	9	9	9	9	9	6.7
69 Strawberry Creek	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
70 Swan Falls	19	19	16	21	18	17	16	20	18	22	22	16	15	15	18
71 Swift Creek Hydro	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
72 The Dalles Fishway	5.1	4.8	4.9	5	5	3.4	3.2	3.2	4.7	4.8	4.8	4.7	4.7	4.9	4.5
73 Thousand Springs	7.9	7.9	7.2	6.4	6.3	6.2	6.1	6.1	6.0	5.6	5.6	5.4	5.4	6.4	6.3
74 Trail Bridge	3.8	3.8	3.5	3.4	3.2	3.3	3	3.2	3.8	3.8	3.8	3.8	2.5	3.8	3.4
75 TW Sullivan	12	10	11	11	11	15	15	15	15	15	15	15	15	15	14
76 Twin Falls	8.0	8.0	8	4.7	10	13	9.5	9.2	0	0	0	0	0	7.7	5.8
77 Upper Malad	7.5	7.5	6.8	6.0	5.9	5.9	5.8	5.8	5.7	5.3	5.3	5.1	5.1	6.0	5.9
78 Upper Salmon 1 & 2	21	21	18	22	18	17	18	20	19	23	23	17	17	17	19
79 Upper Salmon 3 & 4	18	18	15	19	17	16	15	17	16	20	20	14	15	14	16
80 Wallowa Falls	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
81 Walterville	3.8	3.2	2.6	0	0	5	3.1	8.7	9.5	9.5	9.5	9.5	9.5	7.7	5.7
82 West Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Wynochee	1.2	1.1	2.1	3.6	6.4	7.5	8.0	5.7	3.9	0.8	0.8	0	0	1.5	3.4
84 Yelm	9	9	6	10	10	10	10	10	10	10	10	10	10	8	9.4
Total Independent Hydro w/Enc.	1017	995	868	930	850	902	769	821	1003	1278	1324	1632	1712	1244	1088
<i>-Total Independent Hydro W/Enc.-</i>															
85 Federal System	399	376	328	329	287	199	179	176	262	385	422	708	762	476	375
86 Public Entities	144	151	122	110	109	201	135	136	183	202	204	278	315	210	179
87 Investor-Owned Entities	472	467	418	490	453	501	454	508	558	690	696	645	633	558	532
88 Other Entities	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
89 Total Independent Hydro w/Enc.	1017	995	868	930	850	902	769	821	1003	1278	1324	1632	1712	1244	1088

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2018 - 2019 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Independent Hydro Projects-</i>															
1 American Falls	0	0	9.2	15	0	0	0	0	6.7	28	28	71	75	82	24
2 Anderson Ranch	34	31	10	6.3	6.2	6.2	6.2	6.2	6.2	6.3	6.5	34	33	32	16
3 Arrowrock Hydro	13	12	3.8	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.4	13	12	12	5.8
4 Ashton	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
5 Bend Power Dam	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
6 Big Cliff	5.9	5.9	8.1	11	13	6.6	7.1	5.9	7.4	8.8	8.8	21	21	7.2	10
7 Big Fork	3.4	3.4	2.4	3.3	3.4	2.6	4.3	3.1	4.1	4.5	4.5	4.3	4.4	4.1	3.7
8 Black Canyon	7.5	7.5	4	9	5.9	7.1	8.8	4.8	7.9	10	10	10	8.1	7.5	7.6
9 Bliss	48	48	40	52	44	42	41	46	46	55	55	40	41	40	45
10 Blue River	3.4	3.4	2.2	2.2	3.2	3.6	3.4	2.1	1.9	2.5	2.5	2.9	2.4	2.6	2.7
11 Boise River Diversion	3	3	2.1	0.4	0	0	0	0	0	0	2.3	3	2.6	3	1.3
12 Bonneville Fishway	24	24	24	24	12	12	12	24	24	24	24	24	24	24	21
13 Calispel Creek	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0.3
14 Carmen-Smith	17	17	16	14	13	16	14	14	17	17	17	17	17	17	16
15 Cascade	11	11	10	9.0	8.9	8.8	8.7	8.6	8.5	8.0	8.0	7.7	7.6	9.0	8.8
16 Cedar Falls & Newhalem	5.5	4.5	4.4	2.1	1.3	9.1	9.9	11	16	10	13	16	30	8.9	10
17 Chandler	5.2	5.2	4.1	6.7	12	13	9.5	9.3	13	10	10	8.4	8.1	4.6	8.6
18 CJ Strike	50	50	45	63	56	54	52	59	59	68	68	48	46	42	53
19 Clear Lake	2.2	2.2	2	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.8	1.8
20 Cougar	9.2	9.2	26	26	25	6.4	4.7	6.5	7.3	8.3	29	29	29	12	17
21 Cowlitz Falls	12	9.1	8.1	6.2	3.1	23	10	14	33	46	50	64	66	29	26
22 Detroit	26	26	34	45	48	21	22	18	25	35	37	102	95	32	42
23 Dexter	11	11	4.6	9.8	16	3.9	3.8	4.6	4.6	10	16	17	17	5.8	9.2
24 Eagle Point	0	0	0	0	0.4	0.7	0.7	0.9	0.6	0.7	0.7	0.5	0	0	0.4
25 East Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Felt	3.6	3.6	3.8	3.5	3.6	3.1	2.5	2.7	3.4	3.4	3.4	5.1	6.5	4.8	3.8
27 Foster	6.6	6.6	12	10	7.5	10	4.6	10	20	19	18	20	23	6.6	13
28 Gem State Hydro	15	15	11	10	11	12	12	11	15	19	19	18	17	19	14
29 Grace	27	26	22	19	20	19	19	21	22	27	27	27	27	27	23
30 Green Peter	16	16	30	19	17	19	8.2	0.9	34	90	45	59	50	12	28
31 Green Springs - USBR	9.9	8.8	6.5	2.6	3.3	5.2	6.2	5.8	4.9	4.6	4.6	5.0	7.5	9.1	5.8
32 Hellroaring (Big) Creek	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0.2
33 Hills Creek	9.1	9.1	23	24	29	6	6.1	6.1	7.1	12	32	34	34	14	18
34 Hood Street	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
35 Idaho Falls - City Plant	4.9	4.9	3.3	2.1	3.1	4.0	3.1	3.4	4.2	5.3	5.3	6.8	7.1	6.7	4.5
36 Idaho Falls - Lower Plant	5.1	5.1	3.4	2.2	3.3	4.2	3.2	3.5	4.4	5.5	5.5	7.5	7.7	7	4.8
37 Idaho Falls - Upper Plant	5.2	5.2	3.6	2.4	3.4	4.3	3.4	3.7	4.6	5.6	5.6	7.3	7.4	7.0	4.8
38 Island Park	3.3	3.1	1.8	1.5	1.5	1.5	1.7	1.9	1.8	1.8	1.8	3.3	3.9	3.8	2.3
39 Jackson	18	18	20	21	19	80	33	16	42	65	65	74	82	46	43
40 John C Boyle	0	0	0	33	40	45	45	52	78	82	82	28	21	0	35
41 Lake Creek	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
42 Last Chance	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
43 Leaburg	5.3	4.2	3	0	0	7.1	4	12	12	12	12	12	13	10	7.4
44 Lookout Point	44	45	18	38	49	9.8	9.6	12	16	40	66	83	78	26	36
45 Lost Creek	41	40	31	18	19	19	19	13	14	15	16	55	55	46	29
46 Lower Malad	12	12	11	9.8	9.7	9.6	9.4	9.4	9.2	8.7	8.7	8.3	8.2	9.8	9.6
47 Lower Salmon	30	30	26	33	28	27	26	29	28	33	33	25	25	25	28
48 McNary Fishway	9.2	8.6	9.5	9.5	9.5	9.4	3.7	8.9	9.4	9.3	9.3	9.3	9.3	8.7	8.8
49 Mill Creek (WA)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
50 Milner	0	0	0	0	5.7	9.1	4.7	3.4	0	0	0	0	0	0	1.9
51 Minidoka	28	28	12	12	3.1	9	2.8	2.4	2.2	14	14	30	30	30	15
52 Moyie Springs	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
53 North Umpqua	81	81	75	73	70	74	70	79	81	121	121	147	139	92	92
54 Oneida	7.5	7.0	6.1	5.3	5.4	5.3	5.3	5.8	5.9	7.5	7.5	7.2	7.5	7.2	6.3
55 Packwood	7.8	21	3.9	3	1.6	4.7	2.6	3.2	5.4	9.7	9.7	24	45	25	12
56 Palisades	94	78	69	56	19	16	34	28	22	19	19	97	165	162	65
57 Paris	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
58 Powerdale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Reeder Gulch	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
60 Rogue	32	32	28	27	26	28	25	27	40	50	50	51	51	42	36
61 Roza	13	13	0	3.6	0	5	4	4.3	13	13	13	13	13	13	7.9
62 Shoshone Falls	6.1	6.1	4.9	9.8	11	11	11	13	8.5	9.1	9.1	6	5.7	6.9	8.7

Table A-4: Regional Independent Hydro Projects
PNW Loads and Resource Study
2018 - 2019 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
63 Smith Creek	0	0	0.1	1.7	1.2	0.5	0	0.7	0.9	5.7	5.7	36	28	3.9	6.5
64 Snoq. Electron & Nooksack	39	38	35	28	18	56	26	38	59	62	68	68	68	54	46
65 Soda Creek	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
66 Soda Point Project	3.6	3.3	2.9	2.5	2.6	2.5	2.5	2.8	2.8	3.6	3.6	3.4	3.6	3.4	3
67 South Fork Tolt	9	9	6	5	5	5	5	5	5	5	5	6	8	9	6.1
68 Stone Creek	7.9	7.1	6.2	5.1	4.1	5.3	4.1	4.6	6.9	9	9	9	9	9	6.7
69 Strawberry Creek	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
70 Swan Falls	19	19	16	21	18	17	16	20	18	22	22	16	15	15	18
71 Swift Creek Hydro	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
72 The Dalles Fishway	5.1	4.8	4.9	5	5	3.4	3.2	3.2	4.7	4.8	4.8	4.7	4.7	4.9	4.5
73 Thousand Springs	7.9	7.9	7.2	6.4	6.3	6.2	6.1	6.1	6.0	5.6	5.6	5.4	5.4	6.4	6.3
74 Trail Bridge	3.8	3.8	3.5	3.4	3.2	3.3	3	3.2	3.8	3.8	3.8	3.8	2.5	3.8	3.4
75 TW Sullivan	12	10	11	11	11	15	15	15	15	15	15	15	15	15	14
76 Twin Falls	8.0	8.0	8	4.7	10	13	9.5	9.2	0	0	0	0	0	7.7	5.8
77 Upper Malad	7.5	7.5	6.8	6.0	5.9	5.9	5.8	5.8	5.7	5.3	5.3	5.1	5.1	6.0	5.9
78 Upper Salmon 1 & 2	21	21	18	22	18	17	18	20	19	23	23	17	17	17	19
79 Upper Salmon 3 & 4	18	18	15	19	17	16	15	17	16	20	20	14	15	14	16
80 Wallowa Falls	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
81 Walterville	3.8	3.2	2.6	0	0	5	3.1	8.7	9.5	9.5	9.5	9.5	9.5	7.7	5.7
82 West Side	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Wynochee	1.2	1.1	2.1	3.6	6.4	7.5	8.0	5.7	3.9	0.8	0.8	0	0	1.5	3.4
84 Yelm	9	9	6	10	10	10	10	10	10	10	10	10	10	8	9.4
Total Independent Hydro w/Enc.	1017	995	868	930	850	902	769	821	1003	1278	1324	1632	1712	1244	1088
<i>-Total Independent Hydro W/Enc.-</i>															
85 Federal System	399	376	328	329	287	199	179	176	262	385	422	708	762	476	375
86 Public Entities	144	151	122	110	109	201	135	136	183	202	204	278	315	210	179
87 Investor-Owned Entities	472	467	418	490	453	501	454	508	558	690	696	645	633	558	532
88 Other Entities	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
89 Total Independent Hydro w/Enc.	1017	995	868	930	850	902	769	821	1003	1278	1324	1632	1712	1244	1088

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Table A-5
Imports
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-5: Regional Imports
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Imports From East of Continental Divide-</i>															
1 BEPC to NWE PwrS	0	0	0	0	84	84	84	84	84	84	84	0	0	0	42
2 ECDMtr to Other Entities	132	132	122	120	127	135	139	133	132	119	119	119	127	139	129
3 Other Entities to IPC	45	45	0	0	0	0	0	0	0	0	0	0	45	45	11
4 PPL to BPA PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
5 Total Imports From ECD	256	241	181	265	417	496	500	473	461	419	390	172	229	258	341
<i>-Imports From Pacific Southwest-</i>															
6 GLEN to PGE S/Pwr/X	0	0	0	0	10	11	10	11	0	0	0	0	0	0	3.5
7 NCPA to SCL S/Pwr/X	0	0	0	0	24	30	30	30	30	6.2	6.2	0	0	0	12
8 PASA to BPA XchgNrg	0	0	3.5	3.5	3.5	3.5	3.5	3.5	1.7	0	0	0	0	0	1.9
9 PASA to BPA S/N/X	0	0	0.7	0.7	0.7	0.7	0.7	0.7	0.3	0	0	0	0	0	0.4
10 PASA to BPA PkRepl	4.5	4.5	4.5	0	0	0	0	0	0	0	0	0	0	4.5	1.1
11 PG&E to PSE S/Pwr/X	0	0	0	0	156	194	126	101	0	0	0	0	0	0	48
12 RVSD to BPA XchgNrg	0	0	0	4.2	6.4	6	6.3	6.1	6	6	0	0	0	0	3.2
13 RVSD to BPA PkRepl	0	0	0	0	4.7	4.9	4.5	4.8	5.0	4.9	4.9	6.5	0	0	2.9
14 RVSD to BPA PkRepl	6.2	6.8	7	6.8	0	0	0	0	0	0	0	0	0	0	1.7
15 RVSD to BPA XchgNrg	0	0	0	0	17	16	17	16	15	15	0	0	0	0	7.3
16 RVSD to BPA S/Pwr/X	0	0	0	0	10.0	9.4	9.9	9.2	9.0	9.0	0	0	0	0	4.3
17 RVSD to BPA PkRepl	9.7	11	11	11	2.6	2.8	2.5	2.7	2.8	2.7	2.8	0	0	11	4.9
18 SEMP to PSE PwrS	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
19 SUISE to PSE PwrS	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
20 WSPP to Other Entities	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
21 Total Imports From PSW	245	247	252	251	461	504	435	409	295	269	239	231	225	240	316
<i>-Imports From Inland Southwest-</i>															
22 SPP to BPA PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
23 UPL to UPL PwrS	473	473	441	441	440	471	443	456	427	404	404	451	520	574	462
24 Total Imports From ISW	548	548	516	486	485	516	488	502	472	479	479	526	595	649	522
<i>-Imports From Canada-</i>															
25 BCHP to BPA PwrS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26 BCHP to SCL PwrS	18	18	13	18	35	45	58	67	59	27	27	26	36	24	35
27 Other Entities to PSE	1.8	1.8	1.8	2.1	2.7	3.1	3.1	2.9	2.6	2.2	2.2	1.8	1.7	1.8	2.3
28 PWRX to PSE PwrS	0	0	0	0	0	81	84	86	0	0	0	0	0	0	21
29 Total Imports From Canada	20	20	16	22	38	130	146	157	63	30	30	28	39	27	59
<i>-Imports From Other Entities-</i>															
30 Total Imports From Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Imports-</i>															
31 Federal System	175	162	162	217	297	367	367	344	332	330	270	136	134	165	249
32 Public Entities	18	18	13	18	59	75	88	97	89	34	34	26	36	24	48
33 Investor-Owned Entities	645	645	568	568	818	970	875	866	639	615	615	578	692	746	714
34 Other Entities	232	232	222	220	227	235	239	233	232	219	219	219	227	239	229
35 Total Imports.	1070	1056	964	1023	1401	1647	1569	1541	1291	1197	1138	958	1088	1174	1239

Table A-5: Regional Imports
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Imports From East of Continental Divide-</i>															
1 ECDMkt to Other Entities	133	134	123	121	129	137	141	134	133	120	120	120	128	141	130
2 Other Entities to IPC	45	45	0	0	0	0	0	0	0	0	0	0	45	45	11
3 PPL to BPA PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
4 Total Imports From ECD	257	243	183	266	335	414	418	390	379	336	307	174	231	259	301
<i>-Imports From Pacific Southwest-</i>															
5 GLEN to PGE S/Pwr/X	0	0	0	0	11	11	10	11	0	0	0	0	0	0	3.5
6 NCPA to SCL S/Pwr/X	0	0	0	0	24	30	30	30	30	6.2	6.2	0	0	0	12
7 PASA to BPA XchgNrg	0	0	3.5	3.5	3.5	3.5	3.5	3.5	1.7	0	0	0	0	0	1.9
8 PASA to BPA S/N/X	0	0	0.7	0.7	0.7	0.7	0.7	0.7	0.3	0	0	0	0	0	0.4
9 PASA to BPA PkRepl	4.5	4.5	4.5	0	0	0	0	0	0	0	0	0	0	4.5	1.1
10 PG&E to PSE S/Pwr/X	0	0	0	0	156	194	126	101	0	0	0	0	0	0	48
11 RVSD to BPA XchgNrg	0	0	0	0	16	16	17	16	16	16	0	0	0	0	7.3
12 RVSD to BPA S/Pwr/X	0	0	0	0	10.0	9.4	9.9	9.2	9.0	9.0	0	0	0	0	4.3
13 RVSD to BPA PkRepl	11	10	11	10	2.7	2.8	2.5	2.7	2.8	2.6	2.6	0	0	10	4.9
14 SEMP to PSE PwrS	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
15 SUISE to PSE PwrS	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
16 WSPP to Other Entities	100	100	100	100	100	100	0	0	0	0	0	0	0	0	42
17 Total Imports From PSW	241	240	245	239	450	493	324	299	185	159	134	125	125	140	251
<i>-Imports From Inland Southwest-</i>															
18 SPP to BPA PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
19 UPL to UPL PwrS	477	477	444	444	443	475	446	460	430	407	407	455	525	580	466
20 Total Imports From ISW	552	552	519	489	488	520	491	505	475	482	482	530	600	655	526
<i>-Imports From Canada-</i>															
21 BCHP to BPA PwrS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22 BCHP to SCL PwrS	18	18	13	18	35	45	58	67	59	27	27	26	36	24	35
23 Other Entities to PSE	1.8	1.8	1.8	2.1	2.7	3.1	3.1	2.9	2.6	2.2	2.2	1.8	1.7	1.8	2.3
24 PWRX to PSE PwrS	0	0	0	0	0	81	84	86	0	0	0	0	0	0	21
25 Total Imports From Canada	20	20	16	22	38	130	146	157	63	30	30	28	39	27	59
<i>-Imports From Other Entities-</i>															
26 Total Imports From Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Imports-</i>															
27 Federal System	171	155	155	206	285	356	356	334	321	319	265	130	134	165	241
28 Public Entities	18	18	13	18	59	75	88	97	89	34	34	26	36	24	48
29 Investor-Owned Entities	649	649	571	571	738	890	794	786	558	534	534	581	696	751	676
30 Other Entities	233	234	223	221	229	237	141	134	133	120	120	120	128	141	172
31 Total Imports.	1070	1056	962	1017	1311	1557	1379	1352	1102	1007	953	857	995	1080	1137

Table A-5: Regional Imports
PNW Loads and Resource Study
2011 - 2012 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Imports From East of Continental Divide-</i>															
1 ECDMkt to Other Entities	135	135	125	123	130	138	143	141	135	121	122	121	130	142	132
2 Other Entities to IPC	45	45	0	0	0	0	0	0	0	0	0	0	45	45	11
3 PPL to BPA PwrS	0	0	0	145	206	277	277	256	246	216	187	54	58	74	149
4 PPL to BPA PwrS	79	65	59	0	0	0	0	0	0	0	0	0	0	0	11
5 Total Imports From ECD	259	244	184	268	336	416	420	396	380	337	309	175	232	261	303
<i>-Imports From Pacific Southwest-</i>															
6 BARC to PSE PwrS	0	0	0	0	75	75	75	75	0	0	0	0	0	0	25
7 GLEN to PGE S/Pwr/X	0	0	0	0	11	11	11	11	0	0	0	0	0	0	3.6
8 NCPA to SCL S/Pwr/X	0	0	0	0	24	30	30	30	30	6.2	6.2	0	0	0	13
9 PASA to BPA XchgNrg	0	0	0	3.5	3.5	3.5	3.5	3.5	1.7	0	0	0	0	0	1.6
10 PASA to BPA XchgNrg	0	0	3.5	0	0	0	0	0	0	0	0	0	0	0	0.3
11 PASA to BPA S/N/X	0	0	0	0.7	0.7	0.7	0.7	0.7	0.3	0	0	0	0	0	0.3
12 PASA to BPA S/N/X	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0	0.1
13 PASA to BPA PkRepl	0	0	0	0	0	0	0	0	0	0	0	0	0	4.5	0.4
14 PASA to BPA PkRepl	4.5	4.5	4.5	0	0	0	0	0	0	0	0	0	0	0	0.7
15 PG&E to PSE S/Pwr/X	0	0	0	0	156	194	126	101	0	0	0	0	0	0	48
16 RVSD to BPA XchgNrg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 RVSD to BPA XchgNrg	0	0	0	0	16	16	17	16	16	17	0	0	0	0	7.3
18 RVSD to BPA S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 RVSD to BPA S/Pwr/X	0	0	0	0	9.3	9.2	9.7	9.4	9.3	10	0	0	0	0	4.3
20 RVSD to BPA PkRepl	0	0	0	10	2.7	2.7	2.7	2.7	2.7	2.7	2.5	0	0	11	3.1
21 RVSD to BPA PkRepl	11	11	10	0	0	0	0	0	0	0	0	0	0	0	1.8
22 SEMP to PSE PwrS	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
23 SUISSSE to PSE PwrS	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
24 Total Imports From PSW	141	141	144	139	424	466	399	374	185	162	134	125	125	140	234
<i>-Imports From Inland Southwest-</i>															
25 SPP to BPA PwrS	0	0	0	45	45	45	45	45	45	75	75	75	75	75	48
26 SPP to BPA PwrS	75	75	75	0	0	0	0	0	0	0	0	0	0	0	12
27 UPL to UPL PwrS	481	481	448	448	447	479	450	464	434	410	410	458	530	585	470
28 Total Imports From ISW	556	556	523	493	492	524	495	509	479	485	485	533	605	660	530
<i>-Imports From Canada-</i>															
29 BCHP to BPA PwrS	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0.8
30 BCHP to BPA PwrS	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2
31 BCHP to SCL PwrS	18	18	13	18	35	45	58	67	59	27	27	26	36	24	36
32 Other Entities to PSE	1.8	1.8	1.8	2.1	2.7	3.1	3.1	2.9	2.6	2.2	2.2	1.8	1.7	1.8	2.3
33 PWRX to PSE PwrS	0	0	0	0	0	81	84	86	0	0	0	0	0	0	21
34 Total Imports From Canada	20	20	16	22	38	130	146	157	63	30	30	28	39	27	60
<i>-Imports From Other Entities-</i>															
35 Total Imports From Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Imports-</i>															
36 Federal System	171	156	154	206	284	355	356	334	321	322	265	130	134	165	241
37 Public Entities	18	18	13	18	59	75	88	97	89	34	34	26	36	24	48
38 Investor-Owned Entities	653	653	575	575	817	968	873	865	562	537	537	585	701	756	705
39 Other Entities	135	135	125	123	130	138	143	141	135	121	122	121	130	142	132
40 Total Imports.	976	962	867	922	1290	1537	1460	1437	1107	1014	958	862	1001	1088	1126

Table A-5: Regional Imports
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Imports From East of Continental Divide-</i>															
1 ECDMkt to Other Entities	137	137	126	124	132	140	144	137	136	123	123	123	131	144	133
2 Other Entities to IPC	45	45	0	0	0	0	0	0	0	0	0	0	0	0	3.8
3 PPL to BPA PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
4 Total Imports From ECD	260	246	186	269	338	417	421	393	382	339	310	177	189	218	297
<i>-Imports From Pacific Southwest-</i>															
5 BARC to PSE PwrS	0	0	0	0	75	75	75	75	0	0	0	0	0	0	25
6 NCPA to SCL S/Pwr/X	0	0	0	0	24	30	30	30	30	6.2	6.2	0	0	0	12
7 PASA to BPA XchgNrg	0	0	3.5	3.5	3.5	3.5	3.5	3.5	1.7	0	0	0	0	0	1.9
8 PASA to BPA S/N/X	0	0	0.7	0.7	0.7	0.7	0.7	0.7	0.3	0	0	0	0	0	0.4
9 PASA to BPA PkRepl	4.5	4.5	4.5	0	0	0	0	0	0	0	0	0	0	4.5	1.1
10 PG&E to PSE S/Pwr/X	0	0	0	0	156	194	126	101	0	0	0	0	0	0	48
11 RVSD to BPA XchgNrg	0	0	0	0	16	17	16	16	17	16	0	0	0	0	7.3
12 RVSD to BPA S/Pwr/X	0	0	0	0	9.3	9.8	9.3	9.5	9.8	9.3	0	0	0	0	4.3
13 RVSD to BPA PkRepl	11	11	9.5	11	2.7	2.5	2.8	2.7	2.5	2.7	2.8	0	0	11	4.9
14 SEMP to PSE PwrS	75	75	75	75	75	75	75	75	75	0	0	0	0	0	50
15 SUISSSE to PSE PwrS	50	50	50	50	50	50	50	50	50	0	0	0	0	0	33
16 Total Imports From PSW	141	141	143	140	413	457	388	364	186	34	9.0	0	0	16	188
<i>-Imports From Inland Southwest-</i>															
17 SPP to BPA PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
18 UPL to UPL PwrS	486	486	452	452	451	483	454	468	437	413	413	462	534	590	474
19 Total Imports From ISW	560	560	527	497	496	528	499	513	482	488	488	537	609	665	534
<i>-Imports From Canada-</i>															
20 BCHP to BPA PwrS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21 BCHP to SCL PwrS	18	18	13	18	35	45	58	67	59	27	27	26	36	24	35
22 Other Entities to PSE	1.8	1.8	1.8	2.1	2.7	3.1	3.1	2.9	2.6	2.2	2.2	1.8	1.7	1.8	2.3
23 Total Imports From Canada	20	20	16	22	38	49	62	71	63	30	30	28	39	27	39
<i>-Imports From Other Entities-</i>															
24 Total Imports From Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Imports-</i>															
25 Federal System	171	156	153	207	284	356	355	334	323	320	266	130	134	166	241
26 Public Entities	18	18	13	18	59	75	88	97	89	34	34	26	36	24	48
27 Investor-Owned Entities	657	657	578	579	810	881	782	772	565	415	415	464	536	592	635
28 Other Entities	137	137	126	124	132	140	144	137	136	123	123	123	131	144	133
29 Total Imports.	982	967	871	928	1285	1452	1370	1341	1113	891	837	742	837	926	1057

Table A-5: Regional Imports
PNW Loads and Resource Study
2013 - 2014 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Imports From East of Continental Divide-</i>															
1 ECDMktir to Other Entities	138	138	128	125	133	141	146	139	138	124	124	124	133	145	135
2 PPL to BPA PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
3 Total Imports From ECD	217	203	187	271	339	419	423	395	383	340	311	178	190	219	294
<i>-Imports From Pacific Southwest-</i>															
4 BARC to PSE PwrS	0	0	0	0	75	75	75	75	0	0	0	0	0	0	25
5 NCPA to SCL S/Pwr/X	0	0	0	0	24	30	30	30	30	6.2	6.2	0	0	0	12
6 PASA to BPA XchgNrg	0	0	3.5	3.5	3.5	3.5	3.5	3.5	1.7	0	0	0	0	0	1.9
7 PASA to BPA S/N/X	0	0	0.7	0.7	0.7	0.7	0.7	0.7	0.3	0	0	0	0	0	0.4
8 PASA to BPA PkRepl	4.5	4.5	4.5	0	0	0	0	0	0	0	0	0	0	4.5	1.1
9 PG&E to PSE S/Pwr/X	0	0	0	0	156	194	126	101	0	0	0	0	0	0	48
10 RVSD to BPA XchgNrg	0	0	0	0	16	17	16	16	17	16	0	0	0	0	7.3
11 RVSD to BPA S/Pwr/X	0	0	0	0	9.3	9.7	9.2	9.4	9.7	9.2	0	0	0	0	4.3
12 RVSD to BPA PkRepl	11	11	10	11	2.6	2.7	2.8	2.7	2.5	2.7	2.8	0	0	11	4.9
13 Total Imports From PSW	15	15	19	15	288	332	262	239	61	34	9.0	0	0	16	105
<i>-Imports From Inland Southwest-</i>															
14 SPP to BPA PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
15 UPL to UPL PwrS	490	490	455	455	454	488	458	472	441	416	416	466	539	596	478
16 Total Imports From ISW	565	565	530	500	499	532	503	517	486	491	491	541	614	671	538
<i>-Imports From Canada-</i>															
17 BCHP to BPA PwrS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18 BCHP to SCL PwrS	18	18	13	18	35	45	58	67	59	27	27	26	36	24	35
19 Other Entities to PSE	1.8	1.8	1.8	2.1	2.7	3.1	3.1	2.9	2.6	2.2	2.2	1.8	1.7	1.8	2.3
20 Total Imports From Canada	20	20	16	22	38	49	62	71	63	30	30	28	39	27	39
<i>-Imports From Other Entities-</i>															
21 Total Imports From Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Imports-</i>															
22 Federal System	170	156	154	207	284	357	355	334	322	319	266	130	134	166	241
23 Public Entities	18	18	13	18	59	75	88	97	89	34	34	26	36	24	48
24 Investor-Owned Entities	491	491	457	458	688	760	661	651	444	419	419	468	541	598	552
25 Other Entities	138	138	128	125	133	141	146	139	138	124	124	124	133	145	135
26 Total Imports.	817	803	752	808	1165	1333	1250	1221	993	896	842	748	843	933	976

Table A-5: Regional Imports
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Imports From East of Continental Divide-</i>															
1 ECDMkt to Other Entities	140	139	129	127	135	143	147	140	139	126	126	126	134	147	136
2 PPL to BPA PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
3 Total Imports From ECD	219	204	188	272	340	420	424	396	385	341	312	179	192	221	296
<i>-Imports From Pacific Southwest-</i>															
4 BARC to PSE PwrS	0	0	0	0	75	75	75	75	0	0	0	0	0	0	25
5 NCPA to SCL S/Pwr/X	0	0	0	0	24	30	30	30	30	6.2	6.2	0	0	0	12
6 PASA to BPA XchgNrg	0	0	3.5	3.5	3.5	3.5	3.5	3.5	1.7	0	0	0	0	0	1.9
7 PASA to BPA S/N/X	0	0	0.7	0.7	0.7	0.7	0.7	0.7	0.3	0	0	0	0	0	0.4
8 PASA to BPA PkRepl	4.5	4.5	4.5	0	0	0	0	0	0	0	0	0	0	0	0.7
9 PG&E to PSE S/Pwr/X	0	0	0	0	156	194	126	101	0	0	0	0	0	0	48
10 RVSD to BPA XchgNrg	0	0	0	0	17	16	16	16	17	16	0	0	0	0	7.3
11 RVSD to BPA S/Pwr/X	0	0	0	0	9.8	9.2	9.2	9.4	9.7	9.2	0	0	0	0	4.3
12 RVSD to BPA PkRepl	9.7	11	10	11	2.5	2.8	2.7	2.7	2.7	2.7	2.8	0	0	11	4.9
13 Total Imports From PSW	14	15	19	15	289	331	262	239	61	34	9.0	0	0	11	104
<i>-Imports From Inland Southwest-</i>															
14 SPP to BPA PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
15 UPL to UPL PwrS	494	494	459	459	458	492	461	476	445	420	420	470	544	602	482
16 Total Imports From ISW	569	569	534	504	503	537	506	521	490	495	495	545	619	676	542
<i>-Imports From Canada-</i>															
17 BCHP to BPA PwrS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18 BCHP to SCL PwrS	18	18	13	18	35	45	58	67	59	27	27	26	36	24	35
19 Other Entities to PSE	1.8	1.8	1.8	2.1	2.7	3.1	3.1	2.9	2.6	2.2	2.2	1.8	1.7	1.8	2.3
20 Total Imports From Canada	20	20	16	22	38	49	62	71	63	30	30	28	39	27	39
<i>-Imports From Other Entities-</i>															
21 Total Imports From Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Imports-</i>															
22 Federal System	169	156	154	207	285	355	355	334	323	319	266	130	134	161	241
23 Public Entities	18	18	13	18	59	75	88	97	89	34	34	26	36	24	48
24 Investor-Owned Entities	496	496	461	461	692	764	665	655	447	422	422	472	546	603	557
25 Other Entities	140	139	129	127	135	143	147	140	139	126	126	126	134	147	136
26 Total Imports.	823	808	757	813	1171	1337	1255	1227	998	901	847	753	850	935	981

Table A-5: Regional Imports
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Imports From East of Continental Divide-</i>															
1 ECDMkt to Other Entities	142	141	130	128	136	144	149	147	141	127	127	127	136	149	138
2 PPL to BPA PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
3 Total Imports From ECD	221	205	190	273	342	422	426	403	386	343	314	181	193	223	298
<i>-Imports From Pacific Southwest-</i>															
4 NCPA to SCL S/Pwr/X	0	0	0	0	24	30	30	30	30	6.2	6.2	0	0	0	13
5 PG&E to PSE S/Pwr/X	0	0	0	0	156	194	126	101	0	0	0	0	0	0	48
6 RVSD to BPA XchgNrg	0	0	0	0	17	16	17	16	16	16	0	0	0	0	7.3
7 RVSD to BPA S/Pwr/X	0	0	0	0	9.7	9.2	9.6	9.3	9.2	9.2	0	0	0	0	4.3
8 RVSD to BPA PkRepl	9.7	11	11	11	2.6	2.8	2.5	2.7	2.8	2.6	2.6	0	0	0	4.0
9 Total Imports From PSW	9.7	11	11	11	210	252	184	159	58	34	8.8	0	0	0	76
<i>-Imports From Inland Southwest-</i>															
10 SPP to BPA PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
11 UPL to UPL PwrS	498	498	463	463	462	496	465	480	448	423	423	474	549	607	486
12 Total Imports From ISW	573	573	538	508	507	541	510	525	493	498	498	549	624	682	546
<i>-Imports From Canada-</i>															
13 BCHP to BPA PwrS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14 BCHP to SCL PwrS	18	18	13	18	35	45	58	67	59	27	27	26	36	24	36
15 Other Entities to PSE	1.8	1.8	1.8	2.1	2.7	3.1	3.1	2.9	2.6	2.2	2.2	1.8	1.7	1.8	2.3
16 Total Imports From Canada	20	20	16	22	38	49	62	71	63	30	30	28	39	27	39
<i>-Imports From Other Entities-</i>															
17 Total Imports From Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Imports-</i>															
18 Federal System	165	151	146	202	281	351	352	330	319	319	265	130	134	150	237
19 Public Entities	18	18	13	18	59	75	88	97	89	34	34	26	36	24	48
20 Investor-Owned Entities	500	500	465	465	621	693	594	584	451	425	425	476	551	609	536
21 Other Entities	142	141	130	128	136	144	149	147	141	127	127	127	136	149	138
22 Total Imports.	824	810	755	814	1097	1264	1183	1158	1000	905	851	758	856	932	959

Table A-5: Regional Imports
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Imports From East of Continental Divide-</i>															
1 ECDMkt to Other Entities	143	143	132	130	138	146	151	144	143	129	128	129	137	151	139
2 PPL to BPA PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
3 Total Imports From ECD	222	208	191	275	344	424	428	400	388	345	315	182	195	224	299
<i>-Imports From Pacific Southwest-</i>															
4 NCPA to SCL S/Pwr/X	0	0	0	0	24	30	30	30	30	6.2	6.2	0	0	0	12
5 PG&E to PSE S/Pwr/X	0	0	0	0	156	194	126	101	0	0	0	0	0	0	48
6 Total Imports From PSW	0	0	0	0	181	224	156	131	30	6.2	6.2	0	0	0	60
<i>-Imports From Inland Southwest-</i>															
7 SPP to BPA PwrS	75	75	75	45	45	45	45	45	45	75	75	75	75	75	60
8 UPL to UPL PwrS	502	502	467	467	466	500	469	484	452	426	426	478	554	613	490
9 Total Imports From ISW	577	577	542	512	511	545	514	529	497	502	502	553	629	688	550
<i>-Imports From Canada-</i>															
10 BCHP to BPA PwrS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11 BCHP to SCL PwrS	18	18	13	18	35	45	58	67	59	27	27	26	36	24	35
12 Other Entities to PSE	1.8	1.8	1.8	2.1	2.7	3.1	3.1	2.9	2.6	2.2	2.2	1.8	1.7	1.8	2.3
13 Total Imports From Canada	20	20	16	22	38	49	62	71	63	30	30	28	39	27	39
<i>-Imports From Other Entities-</i>															
14 Total Imports From Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Imports-</i>															
15 Federal System	155	141	135	191	252	323	323	302	292	292	263	130	134	150	221
16 Public Entities	18	18	13	18	59	75	88	97	89	34	34	26	36	24	48
17 Investor-Owned Entities	504	504	469	469	625	697	598	588	455	429	429	480	556	615	540
18 Other Entities	143	143	132	130	138	146	151	144	143	129	128	129	137	151	139
19 Total Imports.	820	805	749	808	1074	1242	1160	1131	978	883	853	764	863	939	948

Table A-5: Regional Imports
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Imports From East of Continental Divide-</i>															
1 ECDMkt to Other Entities	144	144	133	131	139	147	152	145	144	129	130	130	138	152	140
2 PPL to BPA PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
3 Total Imports From ECD	223	209	192	276	345	425	429	401	389	345	317	183	196	226	300
<i>-Imports From Pacific Southwest-</i>															
4 NCPA to SCL S/Pwr/X	0	0	0	0	24	30	30	30	30	6.2	6.2	0	0	0	12
5 PG&E to PSE S/Pwr/X	0	0	0	0	156	194	126	101	0	0	0	0	0	0	48
6 Total Imports From PSW	0	0	0	0	181	224	156	131	30	6.2	6.2	0	0	0	60
<i>-Imports From Inland Southwest-</i>															
7 SPP to BPA PwrS	75	75	75	45	45	45	45	40	0	0	0	0	0	0	31
8 UPL to UPL PwrS	507	507	471	471	470	505	473	488	456	430	430	482	559	618	494
9 Total Imports From ISW	582	582	546	516	515	550	518	528	456	430	430	482	559	618	525
<i>-Imports From Canada-</i>															
10 BCHP to BPA PwrS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11 BCHP to SCL PwrS	18	18	13	18	35	45	58	67	59	27	27	26	36	24	35
12 Other Entities to PSE	1.8	1.8	1.8	2.1	2.7	3.1	3.1	2.9	2.6	2.2	2.2	1.8	1.7	1.8	2.3
13 Total Imports From Canada	20	20	16	22	38	49	62	71	63	30	30	28	39	27	39
<i>-Imports From Other Entities-</i>															
14 Total Imports From Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Imports-</i>															
15 Federal System	155	141	135	191	252	323	323	297	247	217	188	55	59	75	192
16 Public Entities	18	18	13	18	59	75	88	97	89	34	34	26	36	24	48
17 Investor-Owned Entities	509	509	473	473	629	702	602	592	458	432	432	484	561	620	544
18 Other Entities	144	144	133	131	139	147	152	145	144	129	130	130	138	152	140
19 Total Imports.	825	811	754	813	1079	1248	1165	1132	938	812	784	694	794	871	924

Table A-5: Regional Imports
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Imports From East of Continental Divide-</i>															
1 ECDMkt to Other Entities	145	145	134	132	140	149	153	146	145	131	131	131	140	153	142
2 PPL to BPA PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
3 Total Imports From ECD	224	210	194	277	346	426	430	402	391	347	318	184	197	227	301
<i>-Imports From Pacific Southwest-</i>															
4 NCPA to SCL S/Pwr/X	0	0	0	0	24	30	30	30	30	6.2	6.2	0	0	0	12
5 PG&E to PSE S/Pwr/X	0	0	0	0	156	194	126	101	0	0	0	0	0	0	48
6 Total Imports From PSW	0	0	0	0	181	224	156	131	30	6.2	6.2	0	0	0	60
<i>-Imports From Inland Southwest-</i>															
7 UPL to UPL PwrS	511	511	475	475	474	509	477	492	460	433	433	486	564	624	499
8 Total Imports From ISW	511	511	475	475	474	509	477	492	460	433	433	486	564	624	499
<i>-Imports From Canada-</i>															
9 BCHP to BPA PwrS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10 BCHP to SCL PwrS	18	18	13	18	35	45	58	67	59	27	27	26	36	24	35
11 Other Entities to PSE	1.8	1.8	1.8	2.1	2.7	3.1	3.1	2.9	2.6	2.2	2.2	1.8	1.7	1.8	2.3
12 Total Imports From Canada	20	20	16	22	38	49	62	71	63	30	30	28	39	27	39
<i>-Imports From Other Entities-</i>															
13 Total Imports From Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Imports-</i>															
14 Federal System	80	66	60	146	207	278	278	257	247	217	188	55	59	75	161
15 Public Entities	18	18	13	18	59	75	88	97	89	34	34	26	36	24	48
16 Investor-Owned Entities	513	513	477	477	633	706	606	597	462	436	436	488	566	626	549
17 Other Entities	145	145	134	132	140	149	153	146	145	131	131	131	140	153	142
18 Total Imports.	756	742	684	773	1039	1209	1125	1097	943	817	788	699	800	878	899

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Table A-6
Small Thermal & Miscellaneous
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-6: Regional Small Thermal and Miscellaneous
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Bangor Base #1 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Bangor Base #2 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Puget Sound Shipyards Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
5 Total Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
6 Crystal Mountain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 J.E. Corette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
9 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Small Thermal and Miscellaneous-</i>															
10 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Total Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-6: Regional Small Thermal and Miscellaneous
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Bangor Base #1 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Bangor Base #2 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Puget Sound Shipyards Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
5 Total Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
6 Crystal Mountain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 J.E. Corette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
9 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Small Thermal and Miscellaneous-</i>															
10 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Total Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-6: Regional Small Thermal and Miscellaneous
PNW Loads and Resource Study
2011 - 2012 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Bangor Base #1 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Bangor Base #2 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Puget Sound Shipyards Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
5 Total Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
6 Crystal Mountain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 J.E. Corette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
9 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Small Thermal and Miscellaneous-</i>															
10 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Total Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-6: Regional Small Thermal and Miscellaneous
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Bangor Base #1 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Bangor Base #2 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Puget Sound Shipyards Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
5 Total Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
6 Crystal Mountain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 J.E. Corette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
9 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Small Thermal and Miscellaneous-</i>															
10 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Total Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-6: Regional Small Thermal and Miscellaneous
PNW Loads and Resource Study
2013 - 2014 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Bangor Base #1 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Bangor Base #2 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Puget Sound Shipyards Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
5 Total Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
6 Crystal Mountain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 J.E. Corette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
9 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Small Thermal and Miscellaneous-</i>															
10 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Total Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-6: Regional Small Thermal and Miscellaneous
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Bangor Base #1 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Bangor Base #2 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Puget Sound Shipyards Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
5 Total Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
6 Crystal Mountain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 J.E. Corette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
9 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Small Thermal and Miscellaneous-</i>															
10 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Total Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-6: Regional Small Thermal and Miscellaneous
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Bangor Base #1 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Bangor Base #2 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Puget Sound Shipyards Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
5 Total Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
6 Crystal Mountain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 J.E. Corette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
9 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Small Thermal and Miscellaneous-</i>															
10 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Total Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-6: Regional Small Thermal and Miscellaneous
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Bangor Base #1 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Bangor Base #2 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Puget Sound Shipyards Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
5 Total Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
6 Crystal Mountain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 J.E. Corette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
9 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Small Thermal and Miscellaneous-</i>															
10 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Total Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-6: Regional Small Thermal and Miscellaneous
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Bangor Base #1 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Bangor Base #2 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Puget Sound Shipyards Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
5 Total Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
6 Crystal Mountain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 J.E. Corette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
9 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Small Thermal and Miscellaneous-</i>															
10 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Total Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-6: Regional Small Thermal and Miscellaneous
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Bangor Base #1 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Bangor Base #2 Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Puget Sound Shipyards Diesel Generators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
5 Total Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
6 Crystal Mountain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 J.E. Corette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
9 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Small Thermal and Miscellaneous-</i>															
10 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Total Small Thermal & Misc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Table A-7
Combustion Turbines
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-7: Regional Combustion Turbines
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
2 Boundary CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Finley CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
5 Olympic View Generating Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Pasco Harbor Generating Station	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7 River Road	0	0	215	230	235	235	235	235	230	225	225	0	220	205	188
8 Springfield Gen Farm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Wauna Peaking Project (Loki)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0	2.5	2.5	2.3
10 Total Public Entities	118	118	333	348	353	353	353	353	348	343	343	115	338	323	306
<i>-Investor-Owned Entities-</i>															
11 Basin Creek Project	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12 Beaver	176	176	101	0	0	0	0	0	0	0	0	0	0	136	35
13 Beaver 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Bennett Mountain	3.7	4.0	7.1	0.1	3.9	3.8	0	0	3.8	0	0	0	3.7	3.0	2.4
15 Boulder Park	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
16 Chehalis Generation Facility CCCT	379	379	383	391	398	401	402	400	397	394	394	388	184	379	375
17 Danskin 1	0.3	0.3	2.1	0	2	2	0	0	2	0	0	0	1.9	0.2	0.9
18 Danskin 2	3.7	3.7	7.1	0.1	3.9	3.8	0	0	3.8	0	0	0	3.7	3	2.4
19 Encogen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Frederickson 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
22 Fredonia 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Fredonia 3&4	2.8	2.8	0.5	0	0	0	0	0	0	0	0	0	0	1.1	0.4
24 Goldendale Energy Center	260	260	265	272	279	285	284	280	276	272	272	0	263	260	249
25 Kettle Falls (CT)	9.1	9.1	9.1	9.9	10	11	11	11	10	9.5	9.5	9.5	7.1	9.1	9.7
26 Lancaster Power Project (Rathdrum)	0	0	0	0	0	0	267	265	263	261	261	0	254	250	129
27 Mint Farm Energy Center	250	250	252	258	262	264	264	263	261	259	259	0	253	250	236
28 Northeastern 1 & 2	50	50	50	0	0	0	0	0	0	0	0	0	0	50	13
29 Port Westward CCCT	341	341	361	372	365	383	360	359	356	334	334	165	328	318	337
30 Rathdrum-Boekel Rd. #2	66	66	67	69	71	72	72	72	70	69	69	33	67	66	66
31 Rathdrum- Boekel Rd. #1	66	66	67	69	71	72	73	72	71	66	0	68	67	66	66
32 Whitehorn 2 & 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Total Investor-Owned Entities	1746	1746	1714	1581	1606	1638	1873	1861	1854	1805	1739	803	1572	1930	1661
<i>-Other Entities-</i>															
34 Big Hanaford CCCT	244	244	244	244	244	244	244	244	244	244	244	0	244	244	223
35 Chehalis Generation Facility CCCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Frederickson CT	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
37 Klamath Peaking Unit	15	15	15	15	20	25	25	25	15	0	0	0	0	15	14
38 Lancaster Power Project (Rathdrum)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Longview Fibre CT	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
40 Mint Farm Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Satsop	638	638	638	638	638	638	638	638	638	638	638	0	638	638	584
42 Total Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
<i>-Combustion Turbines-</i>															
43 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Public Entities	118	118	333	348	353	353	353	353	348	343	343	115	338	323	306
45 Investor-Owned Entities	1746	1746	1714	1581	1606	1638	1873	1861	1854	1805	1739	803	1572	1930	1661
46 Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
47 Total Combustion Turbines	2797	2797	2980	2862	2897	2934	3170	3157	3135	3066	3000	955	2828	3186	2824

Table A-7: Regional Combustion Turbines
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
2 Boundary CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Finley CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
5 Olympic View Generating Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Pasco Harbor Generating Station	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7 River Road	34	0	215	230	235	235	235	235	230	225	225	0	220	205	189
8 Springfield Gen Farm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Wauna Peaking Project (Loki)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0	2.5	2.5	2.3
10 Total Public Entities	152	118	333	348	353	353	353	353	348	343	343	115	338	323	307
<i>-Investor-Owned Entities-</i>															
11 Basin Creek Project	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12 Beaver	186	186	175	0	0	0	0	0	0	0	0	0	0	110	40
13 Beaver 8	0.9	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0.1
14 Bennett Mountain	8.3	8.9	13	0	3.9	3.8	0	0.3	3.8	0	0	0	3.8	1.6	3.2
15 Boulder Park	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
16 Chehalis Generation Facility CCCT	379	379	383	391	398	401	402	400	397	394	394	388	184	379	375
17 Danskin 1	1.4	1.5	3	0	2	2	0	0	2	0	0	0	1.9	0	1
18 Danskin 2	8.3	8.3	13	0	3.9	3.8	0	0.3	3.8	0	0	0	3.7	1.6	3.2
19 Encogen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Frederickson 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
22 Fredonia 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Fredonia 3&4	2.8	2.8	0.5	0	0	0	0	0	0	0	0	0	0	1.1	0.4
24 Goldendale Energy Center	260	260	265	272	279	285	284	280	276	272	272	0	263	260	249
25 Kettle Falls (CT)	9.1	9.1	9.1	9.9	10	11	11	11	10	9.5	9.5	9.5	4.7	9.1	9.5
26 Lancaster Power Project (Rathdrum)	251	251	256	261	265	266	267	265	263	261	261	257	254	250	260
27 Mint Farm Energy Center	250	250	252	258	262	264	264	263	261	259	259	0	253	250	236
28 Northeastern 1 & 2	50	50	50	0	0	0	0	0	0	0	0	0	0	50	13
29 Port Westward CCCT	341	341	361	372	365	383	360	359	356	334	334	165	328	318	337
30 Rathdrum-Boekel Rd. #2	66	66	67	69	71	72	72	72	70	69	69	33	67	66	66
31 Rathdrum- Boekel Rd. #1	66	66	67	69	71	72	73	72	71	66	0	68	67	66	66
32 Whitehorn 2 & 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Total Investor-Owned Entities	2019	2019	2056	1842	1871	1904	1873	1862	1854	1805	1739	1060	1570	1902	1798
<i>-Other Entities-</i>															
34 Big Hanaford CCCT	244	244	244	244	244	244	244	244	244	244	244	0	244	244	223
35 Chehalis Generation Facility CCCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Frederickson CT	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
37 Klamath Peaking Unit	15	15	15	15	20	25	25	25	15	0	0	0	0	15	14
38 Lancaster Power Project (Rathdrum)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Longview Fibre CT	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
40 Mint Farm Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Satsop	638	638	638	638	638	638	638	638	638	638	638	0	638	638	584
42 Total Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
<i>-Combustion Turbines-</i>															
43 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Public Entities	152	118	333	348	353	353	353	353	348	343	343	115	338	323	307
45 Investor-Owned Entities	2019	2019	2056	1842	1871	1904	1873	1862	1854	1805	1739	1060	1570	1902	1798
46 Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
47 Total Combustion Turbines	3104	3070	3322	3123	3162	3200	3170	3158	3135	3066	3000	1212	2826	3158	2962

Table A-7: Regional Combustion Turbines
PNW Loads and Resource Study
2011 - 2012 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Public Entities-															
2 Boundary CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Finley CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
5 Olympic View Generating Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Pasco Harbor Generating Station	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7 River Road	186	186	215	230	235	235	235	235	230	225	225	0	220	205	204
8 Springfield Gen Farm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Wauna Peaking Project (Loki)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0	2.5	2.5	2.3
10 Total Public Entities	304	304	333	348	353	353	353	353	348	343	343	115	338	323	322
-Investor-Owned Entities-															
11 Basin Creek Project	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12 Beaver	202	202	184	0	0	0	0	0	0	0	0	0	0	108	41
13 Beaver 8	0.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Bennett Mountain	9.3	9.9	17	0	4	3.8	0	0.1	3.8	0	0	0	3.7	0.3	3.5
15 Boulder Park	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
16 Chehalis Generation Facility CCCT	379	379	383	391	398	401	402	400	397	394	394	388	184	379	375
17 Danskin 1	1.7	1.8	4.3	0	2	2	0	0	2	0	0	0	1.9	0	1.2
18 Danskin 2	9.3	9.3	17	0	4	3.8	0	0.1	3.8	0	0	0	3.7	0.3	3.5
19 Encogen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Frederickson 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
22 Fredonia 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Fredonia 3&4	2.8	2.8	0.5	0	0	0	0	0	0	0	0	0	0	1.1	0.4
24 Goldendale Energy Center	260	260	265	272	279	285	284	280	276	272	272	0	263	260	249
25 Kettle Falls (CT)	9.1	9.1	9.1	9.9	10	11	11	11	10	9.5	9.5	9.5	4.7	9.1	9.5
26 Lancaster Power Project (Rathdrum)	251	251	256	261	265	266	267	265	263	261	261	129	254	250	249
27 Mint Farm Energy Center	250	250	252	258	262	264	264	263	261	259	259	0	253	250	236
28 Northeastern 1 & 2	50	50	50	0	0	0	0	0	0	0	0	0	0	50	13
29 Port Westward CCCT	341	341	361	372	365	383	360	359	356	334	334	165	328	318	337
30 Rathdrum-Boekel Rd. #2	66	66	67	69	71	72	72	72	70	69	69	33	67	66	66
31 Rathdrum- Boekel Rd. #1	66	66	67	69	71	72	73	72	71	66	0	68	67	66	66
32 Whitehorn 2 & 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Total Investor-Owned Entities	2036	2037	2075	1842	1871	1904	1873	1861	1854	1805	1739	932	1570	1897	1790
-Other Entities-															
34 Big Hanaford CCCT	244	244	244	244	244	244	244	244	244	244	244	0	244	244	223
35 Chehalis Generation Facility CCCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Frederickson CT	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
37 Klamath Peaking Unit	15	15	15	15	20	25	25	25	15	0	0	0	0	15	14
38 Lancaster Power Project (Rathdrum)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Longview Fibre CT	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
40 Mint Farm Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Satsop	638	638	638	638	638	638	638	638	638	638	638	0	638	638	584
42 Total Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	858
-Combustion Turbines-															
43 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Public Entities	304	304	333	348	353	353	353	353	348	343	343	115	338	323	322
45 Investor-Owned Entities	2036	2037	2075	1842	1871	1904	1873	1861	1854	1805	1739	932	1570	1897	1790
46 Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	858
47 Total Combustion Turbines	3274	3274	3341	3123	3162	3200	3170	3157	3135	3066	3000	1084	2826	3153	2969

Table A-7: Regional Combustion Turbines
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
2 Boundary CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Finley CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
5 Olympic View Generating Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Pasco Harbor Generating Station	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7 River Road	205	205	215	230	235	235	235	235	230	225	225	0	220	205	205
8 Springfield Gen Farm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Wauna Peaking Project (Loki)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0	2.5	2.5	2.3
10 Total Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
<i>-Investor-Owned Entities-</i>															
11 Basin Creek Project	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12 Beaver	200	200	161	0	0	0	0	0	0	0	0	0	0	137	42
13 Beaver 8	0.9	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0.1
14 Bennett Mountain	3.4	3.7	11	0.2	3.9	3.8	0	0.1	3.8	0	0	0	3.7	0.9	2.6
15 Boulder Park	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
16 Chehalis Generation Facility CCCT	379	379	383	391	398	401	402	400	397	394	394	388	184	379	375
17 Danskin 1	0.2	0.2	2.5	0	2	2	0	0	2	0	0	0	1.9	0	0.9
18 Danskin 2	3.4	3.4	11	0.2	3.9	3.8	0	0.1	3.8	0	0	0	3.7	0.9	2.6
19 Encogen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Frederickson 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
22 Fredonia 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Fredonia 3&4	2.8	2.8	0.5	0	0	0	0	0	0	0	0	0	0	1.1	0.4
24 Goldendale Energy Center	260	260	265	272	279	285	284	280	276	272	272	0	263	260	249
25 Kettle Falls (CT)	9.1	9.1	9.1	9.9	10	11	11	11	10	9.5	9.5	9.5	4.7	9.1	9.5
26 Lancaster Power Project (Rathdrum)	251	251	256	261	265	266	267	265	263	261	261	257	254	250	260
27 Mint Farm Energy Center	250	250	252	258	262	264	264	263	261	259	259	0	253	250	236
28 Northeastern 1 & 2	50	50	50	0	0	0	0	0	0	0	0	0	0	50	13
29 Port Westward CCCT	341	341	361	372	365	383	360	359	356	334	334	165	328	318	337
30 Rathdrum-Boekel Rd. #2	66	66	67	69	71	72	72	72	70	69	69	33	67	66	66
31 Rathdrum- Boekel Rd. #1	66	66	67	69	71	72	73	72	71	66	0	68	67	66	66
32 Whitehorn 2 & 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Total Investor-Owned Entities	2021	2022	2038	1842	1871	1904	1873	1861	1854	1805	1739	1060	1570	1927	1799
<i>-Other Entities-</i>															
34 Big Hanaford CCCT	244	244	244	244	244	244	244	244	244	244	244	0	244	244	223
35 Chehalis Generation Facility CCCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Frederickson CT	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
37 Klamath Peaking Unit	15	15	15	15	20	25	25	25	15	0	0	0	0	15	14
38 Lancaster Power Project (Rathdrum)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Longview Fibre CT	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
40 Mint Farm Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Satsop	638	638	638	638	638	638	638	638	638	638	638	0	638	638	584
42 Total Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
<i>-Combustion Turbines-</i>															
43 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
45 Investor-Owned Entities	2021	2022	2038	1842	1871	1904	1873	1861	1854	1805	1739	1060	1570	1927	1799
46 Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
47 Total Combustion Turbines	3278	3278	3304	3123	3162	3200	3170	3157	3135	3066	3000	1212	2826	3183	2979

Table A-7: Regional Combustion Turbines
PNW Loads and Resource Study
2013 - 2014 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
2 Boundary CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Finley CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
5 Olympic View Generating Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Pasco Harbor Generating Station	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7 River Road	205	205	215	230	235	235	235	235	230	225	225	0	220	205	205
8 Springfield Gen Farm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Wauna Peaking Project (Loki)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0	2.5	2.5	2.3
10 Total Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
<i>-Investor-Owned Entities-</i>															
11 Basin Creek Project	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12 Beaver	199	199	181	0	0	0	0	0	0	0	0	0	0	110	41
13 Beaver 8	0.9	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0.1
14 Bennett Mountain	4.4	4.7	14	0.2	3.9	3.8	0	0.2	3.8	0	0	0	3.7	0.3	2.9
15 Boulder Park	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
16 Chehalis Generation Facility CCCT	379	379	383	391	398	401	402	400	397	394	394	388	184	379	375
17 Danskin 1	0.4	0.4	3.7	0	2	2	0	0.1	2	0	0	0	1.9	0	1
18 Danskin 2	4.4	4.4	14	0.2	3.9	3.8	0	0.2	3.8	0	0	0	3.7	0.3	2.8
19 Encogen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Frederickson 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
22 Fredonia 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Fredonia 3&4	2.8	2.8	0.5	0	0	0	0	0	0	0	0	0	0	1.1	0.4
24 Goldendale Energy Center	260	260	265	272	279	285	284	280	276	272	272	0	263	260	249
25 Kettle Falls (CT)	9.1	9.1	9.1	9.9	10	11	11	11	10	9.5	9.5	9.5	5.7	9.1	9.6
26 Lancaster Power Project (Rathdrum)	251	251	256	261	265	266	267	265	263	261	261	0	254	250	238
27 Mint Farm Energy Center	250	250	252	258	262	264	264	263	261	259	259	0	253	250	236
28 Northeastern 1 & 2	50	50	50	0	0	0	0	0	0	0	0	0	0	50	13
29 Port Westward CCCT	341	341	361	372	365	383	360	359	356	334	334	165	328	318	337
30 Rathdrum-Boekel Rd. #2	66	66	67	69	71	72	72	72	70	69	69	33	67	66	66
31 Rathdrum- Boekel Rd. #1	66	66	67	69	71	72	73	72	71	66	0	68	67	66	66
32 Whitehorn 2 & 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Total Investor-Owned Entities	2023	2023	2064	1842	1871	1904	1873	1862	1854	1805	1739	803	1571	1898	1777
<i>-Other Entities-</i>															
34 Big Hanaford CCCT	244	244	244	244	244	244	244	244	244	244	244	0	244	244	223
35 Chehalis Generation Facility CCCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Frederickson CT	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
37 Klamath Peaking Unit	15	15	15	15	20	25	25	25	15	0	0	0	0	15	14
38 Lancaster Power Project (Rathdrum)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Longview Fibre CT	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
40 Mint Farm Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Satsop	638	638	638	638	638	638	638	638	638	638	638	0	638	638	584
42 Total Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
<i>-Combustion Turbines-</i>															
43 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
45 Investor-Owned Entities	2023	2023	2064	1842	1871	1904	1873	1862	1854	1805	1739	803	1571	1898	1777
46 Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
47 Total Combustion Turbines	3279	3280	3330	3123	3162	3200	3170	3158	3135	3066	3000	955	2827	3155	2958

Table A-7: Regional Combustion Turbines
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
2 Boundary CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Finley CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
5 Olympic View Generating Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Pasco Harbor Generating Station	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7 River Road	205	205	215	230	235	235	235	235	230	225	225	0	220	205	205
8 Springfield Gen Farm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Wauna Peaking Project (Loki)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0	2.5	2.5	2.3
10 Total Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
<i>-Investor-Owned Entities-</i>															
11 Basin Creek Project	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12 Beaver	192	192	174	0	0	0	0	0	0	0	0	0	0	110	40
13 Beaver 8	0.9	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0.1
14 Bennett Mountain	3.3	3.6	11	0	3.9	3.8	0	0	3.8	0	0	0	3.7	0.2	2.5
15 Boulder Park	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
16 Chehalis Generation Facility CCCT	379	379	383	391	398	401	402	400	397	394	394	388	184	379	375
17 Danskin 1	0.2	0.2	3	0	2	2	0	0	2	0	0	0	1.9	0	0.9
18 Danskin 2	3.3	3.3	11	0	3.9	3.8	0	0	3.8	0	0	0	3.7	0.2	2.4
19 Encogen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Frederickson 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
22 Fredonia 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Fredonia 3&4	2.8	2.8	0.5	0	0	0	0	0	0	0	0	0	0	1.1	0.4
24 Goldendale Energy Center	260	260	265	272	279	285	284	280	276	272	272	0	263	260	249
25 Kettle Falls (CT)	9.1	9.1	9.1	9.9	10	11	11	11	10	9.5	9.5	9.5	4.7	9.1	9.5
26 Lancaster Power Project (Rathdrum)	251	251	256	261	265	266	267	265	263	261	261	257	254	250	260
27 Mint Farm Energy Center	250	250	252	258	262	264	264	263	261	259	259	0	253	250	236
28 Northeastern 1 & 2	50	50	50	0	0	0	0	0	0	0	0	0	0	50	13
29 Port Westward CCCT	341	341	361	372	365	383	360	359	356	334	334	165	328	318	337
30 Rathdrum-Boekel Rd. #2	66	66	67	69	71	72	72	72	70	69	69	33	67	66	66
31 Rathdrum- Boekel Rd. #1	66	66	67	69	71	72	73	72	71	66	0	68	67	66	66
32 Whitehorn 2 & 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Total Investor-Owned Entities	2013	2013	2051	1842	1871	1904	1873	1861	1854	1805	1739	1060	1570	1898	1797
<i>-Other Entities-</i>															
34 Big Hanaford CCCT	244	244	244	244	244	244	244	244	244	244	244	0	244	244	223
35 Chehalis Generation Facility CCCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Frederickson CT	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
37 Klamath Peaking Unit	15	15	15	15	20	25	25	25	15	0	0	0	0	15	14
38 Lancaster Power Project (Rathdrum)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Longview Fibre CT	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
40 Mint Farm Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Satsop	638	638	638	638	638	638	638	638	638	638	638	0	638	638	584
42 Total Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
<i>-Combustion Turbines-</i>															
43 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
45 Investor-Owned Entities	2013	2013	2051	1842	1871	1904	1873	1861	1854	1805	1739	1060	1570	1898	1797
46 Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
47 Total Combustion Turbines	3269	3270	3317	3123	3162	3200	3170	3157	3135	3066	3000	1212	2826	3154	2977

Table A-7: Regional Combustion Turbines
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
2 Boundary CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Finley CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
5 Olympic View Generating Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Pasco Harbor Generating Station	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7 River Road	205	205	215	230	235	235	235	235	230	225	225	0	220	205	205
8 Springfield Gen Farm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Wauna Peaking Project (Loki)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0	2.5	2.5	2.3
10 Total Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
<i>-Investor-Owned Entities-</i>															
11 Basin Creek Project	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12 Beaver	192	192	174	0	0	0	0	0	0	0	0	0	0	110	40
13 Beaver 8	0.9	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0.1
14 Bennett Mountain	3.9	4.1	10	0	3.9	3.8	0	0	3.8	0	0	0	3.7	0.2	2.5
15 Boulder Park	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
16 Chehalis Generation Facility CCCT	379	379	383	391	398	401	402	400	397	394	394	388	184	379	375
17 Danskin 1	0.4	0.5	2.9	0	2	2	0	0	2	0	0	0	1.9	0	0.9
18 Danskin 2	3.8	3.8	10	0	3.9	3.8	0	0	3.8	0	0	0	3.7	0.2	2.5
19 Encogen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Frederickson 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
22 Fredonia 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Fredonia 3&4	2.8	2.8	0.5	0	0	0	0	0	0	0	0	0	0	1.1	0.4
24 Goldendale Energy Center	260	260	265	272	279	285	284	280	276	272	272	0	263	260	249
25 Kettle Falls (CT)	9.1	9.1	9.1	9.9	10	11	11	11	10	9.5	9.5	9.5	4.7	9.1	9.5
26 Lancaster Power Project (Rathdrum)	251	251	256	261	265	266	267	265	263	261	261	129	254	250	249
27 Mint Farm Energy Center	250	250	252	258	262	264	264	263	261	259	259	0	253	250	236
28 Northeastern 1 & 2	50	50	50	0	0	0	0	0	0	0	0	0	0	50	13
29 Port Westward CCCT	341	341	361	372	365	383	360	359	356	334	334	165	328	318	337
30 Rathdrum-Boekel Rd. #2	66	66	67	69	71	72	72	72	70	69	69	33	67	66	66
31 Rathdrum- Boekel Rd. #1	66	66	67	69	71	72	73	72	71	66	0	68	67	66	66
32 Whitehorn 2 & 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Total Investor-Owned Entities	2014	2015	2050	1842	1871	1904	1873	1861	1854	1805	1739	932	1570	1898	1786
<i>-Other Entities-</i>															
34 Big Hanaford CCCT	244	244	244	244	244	244	244	244	244	244	244	0	244	244	223
35 Chehalis Generation Facility CCCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Frederickson CT	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
37 Klamath Peaking Unit	15	15	15	15	20	25	25	25	15	0	0	0	0	15	14
38 Lancaster Power Project (Rathdrum)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Longview Fibre CT	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
40 Mint Farm Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Satsop	638	638	638	638	638	638	638	638	638	638	638	0	638	638	584
42 Total Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	858
<i>-Combustion Turbines-</i>															
43 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
45 Investor-Owned Entities	2014	2015	2050	1842	1871	1904	1873	1861	1854	1805	1739	932	1570	1898	1786
46 Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	858
47 Total Combustion Turbines	3271	3271	3316	3123	3162	3200	3170	3157	3135	3066	3000	1084	2826	3154	2967

Table A-7: Regional Combustion Turbines
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
2 Boundary CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Finley CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
5 Olympic View Generating Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Pasco Harbor Generating Station	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7 River Road	205	205	215	230	235	235	235	235	230	225	225	0	220	205	205
8 Springfield Gen Farm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Wauna Peaking Project (Loki)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0	2.5	2.5	2.3
10 Total Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
<i>-Investor-Owned Entities-</i>															
11 Basin Creek Project	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12 Beaver	192	192	174	0	0	0	0	0	0	0	0	0	0	110	40
13 Beaver 8	0.9	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0.1
14 Bennett Mountain	3.9	4.1	10	0	3.9	3.8	0	0	3.8	0	0	0	3.7	0.2	2.5
15 Boulder Park	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
16 Chehalis Generation Facility CCCT	379	379	383	391	398	401	402	400	397	394	394	388	184	379	375
17 Danskin 1	0.4	0.5	2.9	0	2	2	0	0	2	0	0	0	1.9	0	0.9
18 Danskin 2	3.8	3.8	10	0	3.9	3.8	0	0	3.8	0	0	0	3.7	0.2	2.5
19 Encogen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Frederickson 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
22 Fredonia 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Fredonia 3&4	2.8	2.8	0.5	0	0	0	0	0	0	0	0	0	0	1.1	0.4
24 Goldendale Energy Center	260	260	265	272	279	285	284	280	276	272	272	0	263	260	249
25 Kettle Falls (CT)	9.1	9.1	9.1	9.9	10	11	11	11	10	9.5	9.5	9.5	7.1	9.1	9.7
26 Lancaster Power Project (Rathdrum)	251	251	256	261	265	266	267	265	263	261	261	257	254	250	260
27 Mint Farm Energy Center	250	250	252	258	262	264	264	263	261	259	259	0	253	250	236
28 Northeastern 1 & 2	50	50	50	0	0	0	0	0	0	0	0	0	0	50	13
29 Port Westward CCCT	341	341	361	372	365	383	360	359	356	334	334	165	328	318	337
30 Rathdrum-Boekel Rd. #2	66	66	67	69	71	72	72	72	70	69	69	33	67	66	66
31 Rathdrum- Boekel Rd. #1	66	66	67	69	71	72	73	72	71	66	0	68	67	66	66
32 Whitehorn 2 & 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Total Investor-Owned Entities	2014	2015	2050	1842	1871	1904	1873	1861	1854	1805	1739	1060	1572	1898	1797
<i>-Other Entities-</i>															
34 Big Hanaford CCCT	244	244	244	244	244	244	244	244	244	244	244	0	244	244	223
35 Chehalis Generation Facility CCCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Frederickson CT	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
37 Klamath Peaking Unit	15	15	15	15	20	25	25	25	15	0	0	0	0	15	14
38 Lancaster Power Project (Rathdrum)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Longview Fibre CT	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
40 Mint Farm Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Satsop	638	638	638	638	638	638	638	638	638	638	638	0	638	638	584
42 Total Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
<i>-Combustion Turbines-</i>															
43 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
45 Investor-Owned Entities	2014	2015	2050	1842	1871	1904	1873	1861	1854	1805	1739	1060	1572	1898	1797
46 Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
47 Total Combustion Turbines	3271	3271	3316	3123	3162	3200	3170	3157	3135	3066	3000	1212	2828	3154	2977

Table A-7: Regional Combustion Turbines
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Public Entities-</i>															
2 Boundary CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Finley CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
5 Olympic View Generating Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Pasco Harbor Generating Station	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7 River Road	205	205	215	230	235	235	235	235	230	225	225	0	220	205	205
8 Springfield Gen Farm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Wauna Peaking Project (Loki)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0	2.5	2.5	2.3
10 Total Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
<i>-Investor-Owned Entities-</i>															
11 Basin Creek Project	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12 Beaver	192	192	174	0	0	0	0	0	0	0	0	0	0	110	40
13 Beaver 8	0.9	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0.1
14 Bennett Mountain	3.9	4.1	10	0	3.9	3.8	0	0	3.8	0	0	0	3.7	0.2	2.5
15 Boulder Park	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
16 Chehalis Generation Facility CCCT	379	379	383	391	398	401	402	400	397	394	394	388	184	379	375
17 Danskin 1	0.4	0.5	2.9	0	2	2	0	0	2	0	0	0	1.9	0	0.9
18 Danskin 2	3.8	3.8	10	0	3.9	3.8	0	0	3.8	0	0	0	3.7	0.2	2.5
19 Encogen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Frederickson 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
22 Fredonia 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Fredonia 3&4	2.8	2.8	0.5	0	0	0	0	0	0	0	0	0	0	1.1	0.4
24 Goldendale Energy Center	260	260	265	272	279	285	284	280	276	272	272	0	263	260	249
25 Kettle Falls (CT)	9.1	9.1	9.1	9.9	10	11	11	11	10	9.5	9.5	9.5	7.1	9.1	9.7
26 Lancaster Power Project (Rathdrum)	251	251	256	261	265	266	267	265	263	261	261	0	254	250	238
27 Mint Farm Energy Center	250	250	252	258	262	264	264	263	261	259	259	0	253	250	236
28 Northeastern 1 & 2	50	50	50	0	0	0	0	0	0	0	0	0	0	50	13
29 Port Westward CCCT	341	341	361	372	365	383	360	359	356	334	334	165	328	318	337
30 Rathdrum-Boekel Rd. #2	66	66	67	69	71	72	72	72	70	69	69	33	67	66	66
31 Rathdrum- Boekel Rd. #1	66	66	67	69	71	72	73	72	71	66	0	68	67	66	66
32 Whitehorn 2 & 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Total Investor-Owned Entities	2014	2015	2050	1842	1871	1904	1873	1861	1854	1805	1739	803	1572	1898	1775
<i>-Other Entities-</i>															
34 Big Hanaford CCCT	244	244	244	244	244	244	244	244	244	244	244	0	244	244	223
35 Chehalis Generation Facility CCCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Frederickson CT	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
37 Klamath Peaking Unit	15	15	15	15	20	25	25	25	15	0	0	0	0	15	14
38 Lancaster Power Project (Rathdrum)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Longview Fibre CT	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
40 Mint Farm Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Satsop	638	638	638	638	638	638	638	638	638	638	638	0	638	638	584
42 Total Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
<i>-Combustion Turbines-</i>															
43 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
45 Investor-Owned Entities	2014	2015	2050	1842	1871	1904	1873	1861	1854	1805	1739	803	1572	1898	1775
46 Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
47 Total Combustion Turbines	3271	3271	3316	3123	3162	3200	3170	3157	3135	3066	3000	955	2828	3154	2956

Table A-7: Regional Combustion Turbines
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Public Entities-															
2 Boundary CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Finley CT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
5 Olympic View Generating Station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Pasco Harbor Generating Station	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7 River Road	205	205	215	230	235	235	235	235	230	225	225	0	220	205	205
8 Springfield Gen Farm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Wauna Peaking Project (Loki)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0	2.5	2.5	2.3
10 Total Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
-Investor-Owned Entities-															
11 Basin Creek Project	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12 Beaver	192	192	174	0	0	0	0	0	0	0	0	0	0	110	40
13 Beaver 8	0.9	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0.1
14 Bennett Mountain	3.9	4.1	10	0	3.9	3.8	0	0	3.8	0	0	0	3.7	0.2	2.5
15 Boulder Park	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
16 Chehalis Generation Facility CCCT	379	379	383	391	398	401	402	400	397	394	394	388	184	379	375
17 Danskin 1	0.4	0.5	2.9	0	2	2	0	0	2	0	0	0	1.9	0	0.9
18 Danskin 2	3.8	3.8	10	0	3.9	3.8	0	0	3.8	0	0	0	3.7	0.2	2.5
19 Encogen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Frederickson 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Frederickson CT	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
22 Fredonia 1&2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Fredonia 3&4	2.8	2.8	0.5	0	0	0	0	0	0	0	0	0	0	1.1	0.4
24 Goldendale Energy Center	260	260	265	272	279	285	284	280	276	272	272	0	263	260	249
25 Kettle Falls (CT)	9.1	9.1	9.1	9.9	10	11	11	11	10	9.5	9.5	9.5	4.7	9.1	9.5
26 Lancaster Power Project (Rathdrum)	251	251	256	261	265	266	267	265	263	261	261	257	254	250	260
27 Mint Farm Energy Center	250	250	252	258	262	264	264	263	261	259	259	0	253	250	236
28 Northeastern 1 & 2	50	50	50	0	0	0	0	0	0	0	0	0	0	50	13
29 Port Westward CCCT	341	341	361	372	365	383	360	359	356	334	334	165	328	318	337
30 Rathdrum-Boekel Rd. #2	66	66	67	69	71	72	72	72	70	69	69	33	67	66	66
31 Rathdrum- Boekel Rd. #1	66	66	67	69	71	72	73	72	71	66	0	68	67	66	66
32 Whitehorn 2 & 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Total Investor-Owned Entities	2014	2015	2050	1842	1871	1904	1873	1861	1854	1805	1739	1060	1570	1898	1797
-Other Entities-															
34 Big Hanaford CCCT	244	244	244	244	244	244	244	244	244	244	244	0	244	244	223
35 Chehalis Generation Facility CCCT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Frederickson CT	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
37 Klamath Peaking Unit	15	15	15	15	20	25	25	25	15	0	0	0	0	15	14
38 Lancaster Power Project (Rathdrum)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Longview Fibre CT	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
40 Mint Farm Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Satsop	638	638	638	638	638	638	638	638	638	638	638	0	638	638	584
42 Total Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
-Combustion Turbines-															
43 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Public Entities	323	323	333	348	353	353	353	353	348	343	343	115	338	323	323
45 Investor-Owned Entities	2014	2015	2050	1842	1871	1904	1873	1861	1854	1805	1739	1060	1570	1898	1797
46 Other Entities	933	933	933	933	938	943	943	943	933	918	918	36	918	933	857
47 Total Combustion Turbines	3271	3271	3316	3123	3162	3200	3170	3157	3135	3066	3000	1212	2826	3154	2977

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Table A-8
Renewable Resources
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-8: Regional Renewable Resources
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Condon Wind Project	6.6	8.3	8.0	10	13	13	14	12	14	10	9	9.3	9.6	7.0	11
2 Foote Creek 1	1.9	2.2	2.6	4.0	5.4	4.8	5.0	5.2	4.9	4	3.6	2.8	2.6	1.3	3.7
3 Foote Creek 2	0.2	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.2	0.4
4 Foote Creek 4	2.1	2.4	2.9	4.3	5.9	5.3	5.4	5.7	5.4	4.4	3.9	3.1	2.9	1.4	4.1
5 Klondike I	10	9.7	8.2	6.2	4.9	5.2	5.7	6.4	7.4	8.6	9.3	10	12	11	8
6 Klondike III	15	23	12	12	8.6	10	12	14	18	19	20	24	26	24	17
7 Stateline Wind Project	18	22	18	20	22	19	20	17	31	27	24	24	27	21	22
8 Total Federal System	54	68	52	57	61	59	62	60	81	74	70	74	80	66	65
<i>-Public Entities-</i>															
9 Big Horn	54	64	46	57	58	59	58	62	76	82	86	67	83	60	64
10 Coffin Butte	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
11 Foote Creek 1	0.8	0.9	1.1	1.7	2.3	2.1	2.1	2.2	2.1	1.7	1.5	1.2	1.1	0.5	1.6
12 Hay Canyon Wind	31	43	24	25	41	31	23	27	35	39	41	48	53	49	36
13 Klondike III	7.6	11	6.0	6.1	4.3	5.1	5.8	6.8	8.8	9.7	10	12	13	12	8.3
14 Nine Canyon Wind Project	19	26	19	27	26	30	35	30	38	32	32	27	33	21	28
15 Pebble Springs Wind Project	24	24	29	30	33	29	27	25	46	28	28	36	37	32	31
16 Roosevelt Landfill (H.W. Hill)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17 Short Mountain	2.1	2.1	1.9	1.9	1.8	2.0	1.9	2.0	2.0	2	2	2.1	2	2.0	2.0
18 Stateline Wind Project	34	43	35	39	43	38	39	32	61	52	46	47	52	41	43
19 Tuolumne Wind	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
20 Wheatfield Wind	33	34	29	24	21	21	25	26	33	40	44	41	49	42	32
21 White Creek	59	89	39	52	60	74	72	73	82	89	100	78	97	74	72
22 Willow Creek Wind	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
23 Total Public Entities	330	403	296	327	355	353	351	346	475	450	467	442	511	415	392
<i>-Investor-Owned Entities-</i>															
24 Bennett Creek Wind	4.8	4.8	4.5	4.6	4.7	4.3	3.5	3.3	7.2	5.3	5.3	5.7	6	5.1	4.9
25 Biglow Canyon Phase I	38	58	31	34	23	32	28	37	45	55	62	57	68	55	43
26 Biglow Canyon Phase II	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Cassia Farms Wind	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
28 Cassia Gulch Wind	3.7	3.7	4.4	4.6	4.9	4.5	4.2	3.7	7	4.3	4.3	5.4	5.6	4.9	4.8
29 Elkhorn Valley Wind Farm	24	24	23	23	24	22	18	17	37	27	27	29	30	26	25
30 Eurus Combine Hills	13	13	12	12	14	14	14	13	18	14	14	14	14	13	14
31 Foote Creek 1	2.5	2.9	3.4	5.1	6.9	6.2	6.3	6.6	6.2	5.2	4.6	3.6	3.4	1.7	4.7
32 Fossil Gulch Wind Project	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
33 Goodnoe Hills	19	19	22	23	25	23	21	19	36	22	22	28	28	25	24
34 Hopkins Ridge I	38	45	30	25	39	45	58	52	52	57	55	44	54	36	44
35 Hopkins Ridge II	1.8	2.2	1.4	1.2	1.9	2.2	2.8	2.5	2.5	2.7	2.7	2.1	2.6	1.7	2.1
36 Horseshoe Bend Wind Park	2.2	2.2	2.1	2.1	2.1	2.0	1.6	1.5	3.3	2.4	2.4	2.6	2.7	2.3	2.2
37 Hot Springs Wind	3.8	3.9	4.6	4.8	5.2	4.7	4.4	3.9	7.4	4.5	4.5	5.7	5.8	5.1	5.0
38 Kettle Falls (biomass)	46	46	46	46	46	46	46	46	46	46	46	46	11	46	43
39 Klondike II	28	29	23	16	14	14	17	16	19	20	26	32	35	34	22
40 Klondike III	45	67	35	36	26	30	34	40	52	58	60	70	78	72	49
41 Klondike IIIa	23	33	18	19	31	24	18	21	27	30	31	36	40	37	27
42 Leaning Juniper	35	35	30	25	21	23	26	27	35	41	46	42	51	44	34
43 Marengo I Wind Project	29	29	29	31	33	26	23	18	51	36	36	36	41	31	32
44 Marengo II Wind Project	15	15	14	15	16	13	12	8.8	26	18	18	18	20	16	16
45 Rattlesnake Road Wind Farm	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
46 Rock River I Wind	6.3	7.3	8.6	13	18	16	16	17	16	13	12	9.3	8.6	4.2	12
47 Stateline Wind Project	6.9	8.6	7.0	7.7	8.6	7.6	7.8	6.5	12	11	9.2	9.3	10	8.1	8.6
48 Vansycle Wind	7.1	8.0	6.5	6.9	8.5	8.6	9.1	7.9	11	9.5	8.0	8.7	8.5	7.6	8.3
49 Wild Horse I	55	55	52	53	54	50	41	38	84	62	62	66	69	59	57
50 Wolverine Creek	12	13	15	16	17	15	14	13	24	15	15	18	19	17	16
51 Total Investor-Owned Entities	498	563	458	451	467	451	441	440	662	593	606	633	657	599	533
<i>-Other Entities-</i>															
52 Klondike III	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Klondike IIIa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Stateline Wind Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 White Creek	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1

Table A-8: Regional Renewable Resources
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
56 Total Other Entities	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1
Renewable Resources															
57 Federal System	54	68	52	57	61	59	62	60	81	74	70	74	80	66	65
58 Public Entities	330	403	296	327	355	353	351	346	475	450	467	442	511	415	392
59 Investor-Owned Entities	498	563	458	451	467	451	441	440	662	593	606	633	657	599	533
60 Other Entities	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1
61 Total Renewable Resources	883	1035	806	836	884	864	855	847	1219	1119	1145	1150	1250	1081	991

Table A-8: Regional Renewable Resources
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Condon Wind Project	6.5	8.3	8.0	10	13	13	14	12	14	10	9	9.3	9.6	7.0	11
2 Foote Creek 1	1.9	2.3	2.6	4.0	5.4	4.8	5.0	5.2	4.9	4	3.6	2.8	2.6	1.3	3.7
3 Foote Creek 2	0.2	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.2	0.4
4 Foote Creek 4	2.1	2.5	2.9	4.3	5.9	5.3	5.4	5.7	5.4	4.4	3.9	3.1	2.9	1.4	4.1
5 Klondike I	10	9.7	8.2	6.2	4.9	5.2	5.7	6.4	7.4	8.6	9.3	10	12	11	8
6 Klondike III	15	23	12	12	8.7	10	12	14	18	19	20	24	26	24	17
7 Stateline Wind Project	18	22	18	20	22	19	20	17	31	27	24	24	27	21	22
8 Total Federal System	54	68	52	57	61	59	62	60	81	74	70	74	80	66	65
<i>-Public Entities-</i>															
9 Big Horn	54	64	46	57	58	59	58	62	76	82	86	67	83	60	64
10 Coffin Butte	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
11 Foote Creek 1	0.8	1.0	1.1	1.7	2.3	2.1	2.1	2.2	2.1	1.7	1.5	1.2	1.1	0.5	1.6
12 Hay Canyon Wind	31	43	24	24	42	31	23	27	35	39	41	48	53	49	36
13 Klondike III	7.6	11	6.0	6.1	4.3	5.1	5.8	6.8	8.8	9.7	10	12	13	12	8.3
14 Nine Canyon Wind Project	19	26	19	27	26	30	35	30	38	32	32	27	33	21	28
15 Pebble Springs Wind Project	24	24	29	30	33	29	27	25	46	28	28	36	37	32	31
16 Roosevelt Landfill (H.W. Hill)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17 Short Mountain	2.1	2.1	1.9	1.9	1.8	2.0	1.9	2.0	2.0	2	2	2.1	2	2.0	2.0
18 Stateline Wind Project	35	43	35	39	43	38	39	32	61	52	46	47	52	41	43
19 Tuolumne Wind	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
20 Wheatfield Wind	34	34	29	24	21	21	25	26	33	40	44	41	49	43	32
21 White Creek	59	90	39	52	60	74	72	73	82	89	100	78	97	74	73
22 Willow Creek Wind	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
23 Total Public Entities	332	404	296	327	355	353	351	346	475	450	467	442	511	417	392
<i>-Investor-Owned Entities-</i>															
24 Bennett Creek Wind	4.8	4.8	4.5	4.6	4.7	4.3	3.5	3.3	7.2	5.3	5.3	5.7	6	5.1	4.9
25 Biglow Canyon Phase I	38	58	31	34	24	32	28	37	45	55	62	57	68	55	43
26 Biglow Canyon Phase II	0	0	0	0	0	21	18	31	52	49	49	61	58	67	30
27 Biglow Canyon Phase III	0	0	0	0	0	25	21	36	61	57	57	71	68	79	35
28 Cassia Farms Wind	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
29 Cassia Gulch Wind	3.7	3.7	4.4	4.6	4.9	4.5	4.2	3.7	7	4.3	4.3	5.4	5.6	4.9	4.8
30 Elkhorn Valley Wind Farm	24	24	23	23	24	22	18	17	37	27	27	29	30	26	25
31 Eurus Combine Hills	13	13	12	12	14	14	14	13	18	14	14	14	14	13	14
32 Foote Creek 1	2.4	2.9	3.4	5.1	6.9	6.2	6.3	6.6	6.2	5.2	4.6	3.6	3.4	1.6	4.7
33 Fossil Gulch Wind Project	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
34 Goodnoe Hills	19	19	22	23	25	23	21	19	36	22	22	28	28	25	24
35 Hopkins Ridge I	38	45	30	24	39	45	58	52	52	57	55	44	54	36	44
36 Hopkins Ridge II	1.9	2.2	1.4	1.2	1.9	2.2	2.8	2.5	2.5	2.7	2.7	2.1	2.6	1.8	2.1
37 Horseshoe Bend Wind Park	2.2	2.2	2.1	2.1	2.1	2.0	1.6	1.5	3.3	2.4	2.4	2.6	2.7	2.3	2.2
38 Hot Springs Wind	3.8	3.9	4.6	4.8	5.2	4.7	4.4	3.9	7.4	4.5	4.5	5.7	5.8	5.1	5.0
39 Kettle Falls (biomass)	46	46	46	46	46	46	46	46	46	46	46	46	11	46	43
40 Klondike II	31	26	23	17	14	14	17	16	19	20	26	32	35	35	23
41 Klondike III	45	67	35	36	26	30	34	40	52	58	60	70	78	73	49
42 Klondike IIIa	23	33	18	19	32	24	18	21	27	30	31	36	40	37	28
43 Leaning Juniper	35	35	30	25	21	23	26	27	35	41	46	42	51	44	34
44 Marengo I Wind Project	29	29	29	31	33	26	23	18	51	36	36	36	41	31	32
45 Marengo II Wind Project	15	15	14	15	16	13	12	8.8	26	18	18	18	20	16	16
46 Rattlesnake Road Wind Farm	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
47 Rock River I Wind	6.2	7.4	8.6	13	18	16	16	17	16	13	12	9.3	8.6	4.2	12
48 Stateline Wind Project	7.1	8.5	7.0	7.8	8.6	7.6	7.8	6.5	12	11	9.2	9.3	10	8.2	8.6
49 Vansycle Wind	7.3	7.9	6.5	6.9	8.5	8.6	9.1	7.9	11	9.5	8.0	8.7	8.5	7.7	8.3
50 Wild Horse I	55	55	52	53	54	50	41	38	84	62	62	66	69	59	57
51 Wild Horse II	0	0	0	0	0	9.6	7.9	7.3	16	12	12	13	13	11	7.5
52 Wolverine Creek	12	13	15	16	17	15	14	13	24	15	15	18	19	17	16
53 Total Investor-Owned Entities	502	560	458	452	467	506	488	514	792	710	723	778	797	759	606
<i>-Other Entities-</i>															
54 Klondike III	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 Klondike IIIa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Stateline Wind Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continued

Table A-8: Regional Renewable Resources
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
57 White Creek	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1
58 Total Other Entities	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1
<i>-Renewable Resources-</i>															
59 Federal System	54	68	52	57	61	59	62	60	81	74	70	74	80	66	65
60 Public Entities	332	404	296	327	355	353	351	346	475	450	467	442	511	417	392
61 Investor-Owned Entities	502	560	458	452	467	506	488	514	792	710	723	778	797	759	606
62 Other Entities	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1
63 Total Renewable Resources	889	1032	806	836	884	919	902	921	1349	1236	1262	1295	1390	1243	1064

Table A-8: Regional Renewable Resources
PNW Loads and Resource Study
2011 - 2012 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Condon Wind Project	6.6	8.3	8.0	10	13	13	14	12	14	10	9	9.3	9.6	7.0	11
2 Foote Creek 1	1.9	2.3	2.6	4.0	5.4	4.8	5.0	5.2	4.9	4	3.6	2.8	2.6	1.3	3.7
3 Foote Creek 2	0.2	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.2	0.4
4 Foote Creek 4	2.1	2.5	2.9	4.3	5.9	5.3	5.4	5.7	5.4	4.4	3.9	3.1	2.9	1.4	4.1
5 Klondike I	10	9.7	8.2	6.2	4.9	5.2	5.7	6.4	7.4	8.5	9.3	10	12	11	8
6 Klondike III	15	23	12	12	8.7	10	12	14	18	19	20	24	26	24	17
7 Stateline Wind Project	18	22	18	20	22	19	20	17	31	27	24	24	27	21	22
8 Total Federal System	54	68	52	57	61	59	62	60	81	74	70	73	80	66	65
<i>-Public Entities-</i>															
9 Big Horn	54	64	46	57	58	59	58	62	76	82	86	67	83	60	64
10 Coffin Butte	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
11 Foote Creek 1	0.8	1.0	1.1	1.7	2.3	2.1	2.1	2.2	2.1	1.7	1.5	1.2	1.1	0.5	1.6
12 Hay Canyon Wind	31	43	24	24	42	31	23	27	35	39	41	48	53	49	36
13 Klondike III	7.6	11	6.0	6.1	4.3	5.1	5.8	6.8	8.8	9.7	10	12	13	12	8.3
14 Nine Canyon Wind Project	19	26	19	27	26	30	35	30	38	32	32	27	33	21	28
15 Pebble Springs Wind Project	24	24	29	30	33	29	27	24	46	28	28	36	37	32	31
16 Roosevelt Landfill (H.W. Hill)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17 Short Mountain	2.1	2.1	1.9	1.9	1.8	2.0	1.9	2.0	2.0	2	2	2.1	2	2.0	2.0
18 Stateline Wind Project	34	43	35	39	43	38	39	32	61	53	46	46	52	41	43
19 Tuolumne Wind	27	27	32	34	37	33	31	27	52	32	32	40	41	36	35
20 Wheatfield Wind	33	34	29	24	21	21	25	26	33	40	44	41	49	43	32
21 White Creek	59	90	39	52	60	74	72	73	82	89	100	78	97	74	72
22 Willow Creek Wind	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
23 Total Public Entities	330	404	296	327	355	353	351	345	475	451	467	441	511	417	392
<i>-Investor-Owned Entities-</i>															
24 Bennett Creek Wind	4.8	4.8	4.5	4.6	4.7	4.3	3.5	3.3	7.2	5.3	5.3	5.7	6	5.1	4.9
25 Biglow Canyon Phase I	38	58	31	34	24	32	28	37	45	55	62	57	68	55	43
26 Biglow Canyon Phase II	56	56	49	37	28	21	18	31	52	49	49	61	58	67	44
27 Biglow Canyon Phase III	66	66	57	44	33	25	21	36	61	57	57	71	68	79	51
28 Cassia Farms Wind	2	2.1	2.4	2.5	2.7	2.5	2.3	2.0	3.9	2.4	2.4	3	3.1	2.7	2.6
29 Cassia Gulch Wind	3.7	3.7	4.4	4.6	4.9	4.5	4.2	3.6	7	4.3	4.3	5.4	5.6	4.9	4.8
30 Elkhorn Valley Wind Farm	24	24	23	23	24	22	18	17	37	27	27	29	30	26	25
31 Eurus Combine Hills	13	13	12	12	14	14	14	12	18	14	14	14	14	13	14
32 Foote Creek 1	2.5	2.9	3.4	5.1	6.9	6.2	6.3	6.6	6.2	5.2	4.6	3.6	3.4	1.6	4.7
33 Fossil Gulch Wind Project	2	2.1	2.4	2.5	2.7	2.5	2.3	2.0	3.9	2.4	2.4	3	3.1	2.7	2.6
34 Goodnoe Hills	19	19	22	23	25	23	21	18	36	22	22	28	28	25	24
35 Hopkins Ridge I	38	45	30	24	39	45	58	52	52	57	55	44	54	36	44
36 Hopkins Ridge II	1.8	2.2	1.4	1.2	1.9	2.2	2.8	2.5	2.5	2.8	2.7	2.1	2.6	1.8	2.1
37 Horseshoe Bend Wind Park	2.2	2.2	2.1	2.1	2.1	2.0	1.6	1.5	3.3	2.4	2.4	2.6	2.7	2.3	2.2
38 Hot Springs Wind	3.8	3.9	4.6	4.8	5.2	4.7	4.4	3.8	7.4	4.5	4.5	5.7	5.8	5.1	5.0
39 Kettle Falls (biomass)	46	46	46	46	46	46	46	46	46	46	46	46	11	46	43
40 Klondike II	28	26	23	17	14	14	17	15	19	23	26	31	35	35	22
41 Klondike III	45	67	35	36	26	30	34	40	52	58	60	70	78	73	49
42 Klondike IIIa	23	33	18	19	32	24	18	21	27	30	31	36	40	37	27
43 Leaning Juniper	35	35	30	25	21	23	26	27	35	41	46	42	51	44	34
44 Marengo I Wind Project	29	29	29	31	33	26	23	18	51	36	36	36	41	31	32
45 Marengo II Wind Project	15	15	14	15	16	13	12	8.8	26	18	18	18	20	16	16
46 Rattlesnake Road Wind Farm	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
47 Rock River I Wind	6.3	7.4	8.6	13	18	16	16	17	16	13	12	9.3	8.6	4.2	12
48 Stateline Wind Project	6.9	8.5	7.0	7.8	8.6	7.6	7.8	6.5	12	0	0	0	0	0	5.4
49 Vansycle Wind	7.1	7.9	6.5	6.9	8.5	8.6	9.1	7.9	11	9.7	8.0	8.6	8.5	7.7	8.3
50 Wild Horse I	55	55	52	53	54	50	41	38	84	62	62	66	69	59	57
51 Wild Horse II	11	11	10	10	10	9.6	7.9	7.3	16	12	12	13	13	11	11
52 Wolverine Creek	12	13	15	16	17	15	14	12	24	15	15	18	19	17	16
53 Total Investor-Owned Entities	631	693	574	543	538	506	488	512	792	702	714	766	787	751	636
<i>-Other Entities-</i>															
54 Klondike III	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 Klondike IIIa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Stateline Wind Project	0	0	0	0	0	0	0	0	0	11	9.2	9.3	10	8.2	3.1

Continued

Table A-8: Regional Renewable Resources
 PNW Loads and Resource Study
 2011 - 2012 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
57 White Creek	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1
58 Total Other Entities	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	12	11	10	12	9.4	4.2
<i>-Renewable Resources-</i>															
59 Federal System	54	68	52	57	61	59	62	60	81	74	70	73	80	66	65
60 Public Entities	330	404	296	327	355	353	351	345	475	451	467	441	511	417	392
61 Investor-Owned Entities	631	693	574	543	538	506	488	512	792	702	714	766	787	751	636
62 Other Entities	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	12	11	10	12	9.4	4.2
63 Total Renewable Resources	1016	1165	922	927	955	919	902	918	1349	1240	1262	1291	1390	1243	1097

Table A-8: Regional Renewable Resources
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Condon Wind Project	6.6	8.3	7.9	10	13	13	14	12	14	10	9	9.3	9.6	7.0	11
2 Foote Creek 1	1.9	2.3	2.6	4.0	5.4	4.8	5.0	5.2	4.9	4	3.6	2.8	2.6	1.3	3.7
3 Foote Creek 2	0.2	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.2	0.4
4 Foote Creek 4	2.1	2.5	2.9	4.3	5.9	5.3	5.4	5.7	5.3	4.4	3.9	3.1	2.9	1.4	4.1
5 Klondike I	10	9.7	8.2	6.2	4.9	5.2	5.7	6.4	7.4	8.6	9.3	10	12	11	8
6 Klondike III	15	23	12	12	8.7	10	11	14	18	19	20	24	26	24	17
7 Stateline Wind Project	18	22	18	20	22	19	20	17	31	27	24	24	27	21	22
8 Total Federal System	54	68	52	57	61	59	62	60	81	74	70	73	81	66	65
-Public Entities-															
9 Big Horn	54	64	46	57	58	59	58	62	76	82	86	67	84	60	64
10 Coffin Butte	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
11 Foote Creek 1	0.8	1.0	1.1	1.7	2.3	2.1	2.1	2.2	2.1	1.7	1.5	1.2	1.1	0.5	1.6
12 Hay Canyon Wind	31	43	24	25	42	31	23	27	35	39	41	48	53	49	36
13 Klondike III	7.6	11	6.0	6.1	4.3	5.1	5.7	6.8	8.8	9.7	10	12	13	12	8.3
14 Nine Canyon Wind Project	19	26	19	27	26	30	35	30	38	32	32	27	33	21	28
15 Pebble Springs Wind Project	24	24	29	30	33	29	27	25	46	28	28	36	37	32	31
16 Roosevelt Landfill (H.W. Hill)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17 Short Mountain	2.1	2.1	1.9	1.9	1.8	2.0	1.9	2.0	2.0	2	2	2.1	2	2.0	2.0
18 Stateline Wind Project	34	43	35	39	43	38	39	32	61	52	46	46	52	41	43
19 Tuolumne Wind	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
20 Wheatfield Wind	33	34	29	24	21	21	25	26	33	40	44	41	49	42	32
21 White Creek	59	90	39	52	60	74	72	73	82	89	100	78	97	74	73
22 Willow Creek Wind	25	25	21	18	16	16	18	19	25	30	33	30	37	32	24
23 Total Public Entities	330	404	296	327	355	354	351	346	475	450	467	441	512	415	392
-Investor-Owned Entities-															
24 Bennett Creek Wind	4.8	4.8	4.5	4.6	4.7	4.3	3.5	3.3	7.2	5.3	5.3	5.7	6	5.1	4.9
25 Biglow Canyon Phase I	38	58	31	34	24	32	28	37	45	55	62	57	69	55	43
26 Biglow Canyon Phase II	56	56	49	37	28	21	18	31	52	49	49	61	58	67	44
27 Biglow Canyon Phase III	66	66	57	44	33	25	21	36	61	57	57	71	68	79	52
28 Cassia Farms Wind	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
29 Cassia Gulch Wind	3.7	3.7	4.4	4.6	4.9	4.5	4.2	3.7	7	4.3	4.3	5.4	5.6	4.9	4.8
30 Elkhorn Valley Wind Farm	24	24	23	23	24	22	18	17	37	27	27	29	30	26	25
31 Eurus Combine Hills	13	13	12	12	14	14	14	13	18	14	14	14	14	13	14
32 Foote Creek 1	2.5	2.9	3.4	5.1	6.9	6.2	6.3	6.6	6.2	5.2	4.6	3.6	3.4	1.7	4.7
33 Fossil Gulch Wind Project	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
34 Goodnoe Hills	19	19	22	23	25	23	21	19	36	22	22	28	28	25	24
35 Hopkins Ridge I	38	45	30	25	39	45	58	52	52	57	55	44	55	36	44
36 Hopkins Ridge II	1.8	2.2	1.4	1.2	1.9	2.2	2.8	2.5	2.5	2.7	2.7	2.1	2.6	1.7	2.1
37 Horseshoe Bend Wind Park	2.2	2.2	2.1	2.1	2.1	2.0	1.6	1.5	3.3	2.4	2.4	2.6	2.7	2.3	2.2
38 Hot Springs Wind	3.8	3.9	4.6	4.8	5.2	4.7	4.4	3.9	7.4	4.5	4.5	5.7	5.8	5.1	5.0
39 Kettle Falls (biomass)	46	46	46	46	46	46	46	46	46	46	46	34	11	46	42
40 Klondike II	28	26	24	16	14	14	16	16	20	20	26	31	37	34	23
41 Klondike III	45	67	35	36	26	30	34	40	52	58	60	70	78	72	49
42 Klondike IIIa	23	33	18	19	32	24	18	21	27	30	31	36	40	37	27
43 Leaning Juniper	35	35	30	25	21	23	26	27	35	41	46	42	51	44	34
44 Marengo I Wind Project	29	29	29	31	33	26	23	18	51	36	36	36	41	31	32
45 Marengo II Wind Project	15	15	14	15	16	13	12	8.8	26	18	18	18	20	16	16
46 Rattlesnake Road Wind Farm	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
47 Rock River I Wind	6.3	7.4	8.6	13	18	16	16	17	16	13	12	9.3	8.6	4.2	12
48 Stateline Wind Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Vansycle Wind	7.1	7.9	6.6	6.9	8.5	8.6	9.1	7.9	11	9.5	8.0	8.6	8.6	7.6	8.3
50 Wild Horse I	55	55	52	53	54	50	41	38	84	62	62	66	69	59	57
51 Wild Horse II	11	11	10	10	10	9.6	7.9	7.3	16	12	12	13	13	11	11
52 Wolverine Creek	12	13	15	16	17	15	14	13	24	15	15	18	19	17	16
53 Total Investor-Owned Entities	624	684	568	534	530	499	479	507	781	700	714	755	790	748	630
-Other Entities-															
54 Klondike III	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 Klondike IIIa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Stateline Wind Project	6.9	8.5	7.0	7.7	8.6	7.6	7.8	6.5	12	11	9.2	9.3	10	8.1	8.6

Continued

Table A-8: Regional Renewable Resources
 PNW Loads and Resource Study
 2012 - 2013 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
57 White Creek	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1
58 Total Other Entities	7.8	9.9	7.6	8.5	9.5	8.7	8.9	7.6	14	12	11	10	12	9.3	9.7
<i>-Renewable Resources-</i>															
59 Federal System	54	68	52	57	61	59	62	60	81	74	70	73	81	66	65
60 Public Entities	330	404	296	327	355	354	351	346	475	450	467	441	512	415	392
61 Investor-Owned Entities	624	684	568	534	530	499	479	507	781	700	714	755	790	748	630
62 Other Entities	7.8	9.9	7.6	8.5	9.5	8.7	8.9	7.6	14	12	11	10	12	9.3	9.7
63 Total Renewable Resources	1016	1165	924	927	955	920	901	921	1350	1236	1262	1279	1395	1238	1097

Table A-8: Regional Renewable Resources
PNW Loads and Resource Study
2013 - 2014 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Condon Wind Project	6.6	8.3	7.9	10	13	13	14	12	14	10	9	9.3	9.6	7.0	11
2 Foote Creek 1	1.9	2.3	2.6	4.0	5.4	4.8	5.0	5.2	4.9	4	3.6	2.8	2.6	1.3	3.7
3 Foote Creek 2	0.2	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.2	0.4
4 Foote Creek 4	2.1	2.5	2.9	4.3	5.9	5.3	5.4	5.7	5.3	4.4	3.9	3.1	2.9	1.4	4.1
5 Klondike I	10	9.7	8.2	6.2	4.9	5.2	5.7	6.4	7.4	8.6	9.3	10	12	11	8
6 Klondike III	15	23	12	12	8.7	10	11	14	18	19	20	24	26	24	17
7 Stateline Wind Project	18	22	18	20	22	19	20	17	31	27	24	24	27	21	22
8 Total Federal System	54	68	52	57	61	59	62	60	81	74	70	73	81	66	65
-Public Entities-															
9 Big Horn	54	64	46	57	58	59	58	62	76	82	86	67	84	60	64
10 Coffin Butte	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
11 Foote Creek 1	0.8	1.0	1.1	1.7	2.3	2.1	2.1	2.2	2.1	1.7	1.5	1.2	1.1	0.5	1.6
12 Hay Canyon Wind	31	43	24	25	42	31	23	27	35	39	41	48	53	49	36
13 Klondike III	7.6	11	6.0	6.1	4.3	5.1	5.7	6.8	8.8	9.7	10	12	13	12	8.3
14 Nine Canyon Wind Project	19	26	19	27	26	30	35	30	38	32	32	27	33	21	28
15 Pebble Springs Wind Project	24	24	29	30	33	29	27	25	46	28	28	36	37	32	31
16 Roosevelt Landfill (H.W. Hill)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17 Short Mountain	2.1	2.1	1.9	1.9	1.8	2.0	1.9	2.0	2.0	2	2	2.1	2	2.0	2.0
18 Stateline Wind Project	34	43	35	39	43	38	39	32	61	52	46	46	52	41	43
19 Tuolumne Wind	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
20 Wheatfield Wind	33	34	29	24	21	21	25	26	33	40	44	41	49	42	32
21 White Creek	59	90	39	52	60	74	72	73	82	89	100	78	97	74	73
22 Willow Creek Wind	25	25	21	18	16	16	18	19	25	30	33	30	37	32	24
23 Total Public Entities	330	404	296	327	355	354	351	346	475	450	467	441	512	415	392
-Investor-Owned Entities-															
24 Bennett Creek Wind	4.8	4.8	4.5	4.6	4.7	4.3	3.5	3.3	7.2	5.3	5.3	5.7	6	5.1	4.9
25 Biglow Canyon Phase I	38	58	31	34	24	32	28	37	45	55	62	57	69	55	43
26 Biglow Canyon Phase II	56	56	49	37	28	21	18	31	52	49	49	61	58	67	44
27 Biglow Canyon Phase III	66	66	57	44	33	25	21	36	61	57	57	71	68	79	52
28 Cassia Farms Wind	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
29 Cassia Gulch Wind	3.7	3.7	4.4	4.6	4.9	4.5	4.2	3.7	7	4.3	4.3	5.4	5.6	4.9	4.8
30 Elkhorn Valley Wind Farm	24	24	23	23	24	22	18	17	37	27	27	29	30	26	25
31 Eurus Combine Hills	13	13	12	12	14	14	14	13	18	14	14	14	14	13	14
32 Foote Creek 1	2.5	2.9	3.4	5.1	6.9	6.2	6.3	6.6	6.2	5.2	4.6	3.6	3.4	1.7	4.7
33 Fossil Gulch Wind Project	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
34 Goodnoe Hills	19	19	22	23	25	23	21	19	36	22	22	28	28	25	24
35 Hopkins Ridge I	38	45	30	25	39	45	58	52	52	57	55	44	55	36	44
36 Hopkins Ridge II	1.8	2.2	1.4	1.2	1.9	2.2	2.8	2.5	2.5	2.7	2.7	2.1	2.6	1.7	2.1
37 Horseshoe Bend Wind Park	2.2	2.2	2.1	2.1	2.1	2.0	1.6	1.5	3.3	2.4	2.4	2.6	2.7	2.3	2.2
38 Hot Springs Wind	3.8	3.9	4.6	4.8	5.2	4.7	4.4	3.9	7.4	4.5	4.5	5.7	5.8	5.1	5.0
39 Kettle Falls (biomass)	46	46	46	46	46	46	46	46	46	46	46	34	18	46	42
40 Klondike II	28	26	24	16	14	14	16	16	20	20	26	31	37	34	23
41 Klondike III	45	67	35	36	26	30	34	40	52	58	60	70	78	72	49
42 Klondike IIIa	23	33	18	19	32	24	18	21	27	30	31	36	40	37	27
43 Leaning Juniper	35	35	30	25	21	23	26	27	35	41	46	42	51	44	34
44 Marengo I Wind Project	29	29	29	31	33	26	23	18	51	36	36	36	41	31	32
45 Marengo II Wind Project	15	15	14	15	16	13	12	8.8	26	18	18	18	20	16	16
46 Rattlesnake Road Wind Farm	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
47 Rock River I Wind	6.3	7.4	8.6	13	18	16	16	17	16	13	12	9.3	8.6	4.2	12
48 Stateline Wind Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Vansycle Wind	7.1	7.9	6.6	6.9	8.5	8.6	9.1	7.9	11	9.5	8.0	8.6	8.6	7.6	8.3
50 Wild Horse I	55	55	52	53	54	50	41	38	84	62	62	66	69	59	57
51 Wild Horse II	11	11	10	10	10	9.6	7.9	7.3	16	12	12	13	13	11	11
52 Wolverine Creek	12	13	15	16	17	15	14	13	24	15	15	18	19	17	16
53 Total Investor-Owned Entities	624	684	568	534	530	499	479	507	781	700	714	755	797	748	631
-Other Entities-															
54 Klondike III	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 Klondike IIIa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Stateline Wind Project	6.9	8.5	7.0	7.7	8.6	7.6	7.8	6.5	12	11	9.2	9.3	10	8.1	8.6

Continued

Table A-8: Regional Renewable Resources
 PNW Loads and Resource Study
 2013 - 2014 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
57 White Creek	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1
58 Total Other Entities	7.8	9.9	7.6	8.5	9.5	8.7	8.9	7.6	14	12	11	10	12	9.3	9.7
<i>-Renewable Resources-</i>															
59 Federal System	54	68	52	57	61	59	62	60	81	74	70	73	81	66	65
60 Public Entities	330	404	296	327	355	354	351	346	475	450	467	441	512	415	392
61 Investor-Owned Entities	624	684	568	534	530	499	479	507	781	700	714	755	797	748	631
62 Other Entities	7.8	9.9	7.6	8.5	9.5	8.7	8.9	7.6	14	12	11	10	12	9.3	9.7
63 Total Renewable Resources	1016	1165	924	927	955	920	901	921	1350	1236	1262	1279	1401	1238	1098

Table A-8: Regional Renewable Resources
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Condon Wind Project	6.6	8.3	8.0	10	13	13	14	12	14	10	9	9.3	9.6	7.0	11
2 Foote Creek 1	1.9	2.2	2.6	4.0	5.4	4.8	5.0	5.2	4.9	4	3.6	2.8	2.6	1.3	3.7
3 Foote Creek 2	0.2	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.2	0.4
4 Foote Creek 4	2.1	2.4	2.9	4.3	5.9	5.3	5.4	5.7	5.3	4.4	3.9	3.1	2.9	1.4	4.1
5 Klondike I	10	9.7	8.2	6.2	4.9	5.2	5.7	6.4	7.4	8.6	9.3	10	12	11	8
6 Klondike III	15	23	12	12	8.6	10	11	14	18	19	20	24	26	24	17
7 Stateline Wind Project	18	22	18	20	22	19	20	17	31	27	24	24	27	21	22
8 Total Federal System	54	68	52	57	61	59	62	60	81	74	70	74	80	66	65
<i>-Public Entities-</i>															
9 Big Horn	54	64	46	57	58	59	58	62	76	82	86	67	83	60	64
10 Coffin Butte	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
11 Foote Creek 1	0.8	0.9	1.1	1.7	2.3	2.1	2.1	2.2	2.1	1.7	1.5	1.2	1.1	0.5	1.6
12 Hay Canyon Wind	31	43	24	25	41	31	23	27	35	39	41	48	53	49	36
13 Klondike III	7.6	11	6.0	6.1	4.3	5.1	5.7	6.8	8.8	9.7	10	12	13	12	8.3
14 Nine Canyon Wind Project	19	26	19	27	26	30	35	30	38	32	32	27	33	21	28
15 Pebble Springs Wind Project	24	24	29	30	33	29	27	25	46	28	28	36	37	32	31
16 Roosevelt Landfill (H.W. Hill)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17 Short Mountain	2.1	2.1	1.9	1.9	1.8	2.0	1.9	2.0	2.0	2	2	2.1	2	2.0	2.0
18 Stateline Wind Project	34	43	35	39	43	38	39	32	61	52	46	47	52	41	43
19 Tuolumne Wind	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
20 Wheatfield Wind	33	34	29	24	21	21	25	26	33	40	44	41	49	42	32
21 White Creek	59	89	39	52	60	74	72	73	82	89	100	78	97	74	72
22 Willow Creek Wind	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
23 Total Public Entities	330	403	296	327	355	353	351	346	475	450	467	442	511	415	392
<i>-Investor-Owned Entities-</i>															
24 Bennett Creek Wind	4.8	4.8	4.5	4.6	4.7	4.3	3.5	3.3	7.2	5.3	5.3	5.7	6	5.1	4.9
25 Biglow Canyon Phase I	38	58	31	34	23	32	28	37	45	55	62	57	68	55	43
26 Biglow Canyon Phase II	56	56	49	37	28	21	18	31	52	49	49	61	58	67	44
27 Biglow Canyon Phase III	66	66	57	44	33	25	21	36	61	57	57	71	68	79	52
28 Cassia Farms Wind	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
29 Cassia Gulch Wind	3.7	3.7	4.4	4.6	4.9	4.5	4.2	3.7	7	4.3	4.3	5.4	5.6	4.9	4.8
30 Elkhorn Valley Wind Farm	24	24	23	23	24	22	18	17	37	27	27	29	30	26	25
31 Eurus Combine Hills	13	13	12	12	14	14	14	13	18	14	14	14	14	13	14
32 Foote Creek 1	2.5	2.9	3.4	5.1	6.9	6.2	6.3	6.6	6.2	5.2	4.6	3.6	3.4	1.7	4.7
33 Fossil Gulch Wind Project	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
34 Goodnoe Hills	19	19	22	23	25	23	21	19	36	22	22	28	28	25	24
35 Hopkins Ridge I	38	45	30	25	39	45	58	52	52	57	55	44	54	36	44
36 Hopkins Ridge II	1.8	2.2	1.4	1.2	1.9	2.2	2.8	2.5	2.5	2.7	2.7	2.1	2.6	1.7	2.1
37 Horseshoe Bend Wind Park	2.2	2.2	2.1	2.1	2.1	2.0	1.6	1.5	3.3	2.4	2.4	2.6	2.7	2.3	2.2
38 Hot Springs Wind	3.8	3.9	4.6	4.8	5.2	4.7	4.4	3.9	7.4	4.5	4.5	5.7	5.8	5.1	5.0
39 Kettle Falls (biomass)	46	46	46	46	46	46	46	46	46	46	46	34	11	46	42
40 Klondike II	28	29	23	16	14	14	16	16	20	20	26	32	35	34	23
41 Klondike III	45	67	35	36	26	30	34	40	52	58	60	70	78	72	49
42 Klondike IIIa	23	33	18	19	31	24	18	21	27	30	31	36	40	37	27
43 Leaning Juniper	35	35	30	25	21	23	26	27	35	41	46	42	51	44	34
44 Marengo I Wind Project	29	29	29	31	33	26	23	18	51	36	36	36	41	31	32
45 Marengo II Wind Project	15	15	14	15	16	13	12	8.8	26	18	18	18	20	16	16
46 Rattlesnake Road Wind Farm	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
47 Rock River I Wind	6.3	7.3	8.6	13	18	16	16	17	16	13	12	9.3	8.6	4.2	12
48 Stateline Wind Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Vansycle Wind	7.1	8.0	6.5	6.9	8.5	8.6	9.1	7.9	11	9.5	8.0	8.7	8.5	7.6	8.3
50 Wild Horse I	55	55	52	53	54	50	41	38	84	62	62	66	69	59	57
51 Wild Horse II	11	11	10	10	10	9.6	7.9	7.3	16	12	12	13	13	11	11
52 Wolverine Creek	12	13	15	16	17	15	14	13	24	15	15	18	19	17	16
53 Total Investor-Owned Entities	624	687	567	534	530	498	479	507	781	700	714	757	787	748	630
<i>-Other Entities-</i>															
54 Klondike III	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 Klondike IIIa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Stateline Wind Project	6.9	8.6	7.0	7.7	8.6	7.6	7.8	6.5	12	11	9.2	9.3	10	8.1	8.6

Continued

Table A-8: Regional Renewable Resources
 PNW Loads and Resource Study
 2014 - 2015 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
57 White Creek	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1
58 Total Other Entities	7.8	10.0	7.6	8.5	9.5	8.7	8.9	7.6	14	12	11	11	12	9.3	9.7
<i>-Renewable Resources-</i>															
59 Federal System	54	68	52	57	61	59	62	60	81	74	70	74	80	66	65
60 Public Entities	330	403	296	327	355	353	351	346	475	450	467	442	511	415	392
61 Investor-Owned Entities	624	687	567	534	530	498	479	507	781	700	714	757	787	748	630
62 Other Entities	7.8	10.0	7.6	8.5	9.5	8.7	8.9	7.6	14	12	11	11	12	9.3	9.7
63 Total Renewable Resources	1016	1168	922	927	955	919	901	921	1350	1236	1262	1283	1390	1238	1097

Table A-8: Regional Renewable Resources
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Condon Wind Project	6.6	8.3	8.0	10	13	13	14	12	14	10	9	9.3	9.6	7.0	11
2 Foote Creek 1	1.9	2.2	2.6	4.0	5.4	4.8	5.0	5.2	4.9	4	3.6	2.8	2.6	1.3	3.7
3 Foote Creek 2	0.2	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.2	0.4
4 Foote Creek 4	2.1	2.4	2.9	4.3	5.9	5.3	5.4	5.7	5.4	4.4	3.9	3.1	2.9	1.4	4.1
5 Klondike I	10	9.7	8.2	6.2	4.9	5.2	5.7	6.4	7.4	8.6	9.3	10	12	11	8
6 Klondike III	15	23	12	12	8.6	10	12	14	18	19	20	24	26	24	17
7 Stateline Wind Project	18	22	18	20	22	19	20	17	31	27	24	24	27	21	22
8 Total Federal System	54	68	52	57	61	59	62	60	81	74	70	74	80	66	65
-Public Entities-															
9 Big Horn	54	64	46	57	58	59	58	62	76	82	86	67	83	60	64
10 Coffin Butte	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
11 Foote Creek 1	0.8	0.9	1.1	1.7	2.3	2.1	2.1	2.2	2.1	1.7	1.5	1.2	1.1	0.5	1.6
12 Hay Canyon Wind	31	43	24	25	41	31	23	27	35	39	41	48	53	49	36
13 Klondike III	7.6	11	6.0	6.1	4.3	5.1	5.8	6.8	8.8	9.7	10	12	13	12	8.3
14 Nine Canyon Wind Project	19	26	19	27	26	30	35	30	38	32	32	27	33	21	28
15 Pebble Springs Wind Project	24	24	29	30	33	29	27	24	46	28	28	36	37	32	31
16 Roosevelt Landfill (H.W. Hill)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17 Short Mountain	2.1	2.1	1.9	1.9	1.8	2.0	1.9	2.0	2.0	2	2	2.1	2	2.0	2.0
18 Stateline Wind Project	34	43	35	39	43	38	39	32	61	52	46	47	52	41	43
19 Tuolumne Wind	27	27	32	34	37	33	31	27	52	32	32	40	41	36	35
20 Wheatfield Wind	33	34	29	24	21	21	25	26	33	40	44	41	49	43	32
21 White Creek	59	89	39	52	60	74	72	73	82	89	100	78	97	74	72
22 Willow Creek Wind	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
23 Total Public Entities	330	403	296	327	355	353	351	345	475	450	467	442	511	417	392
-Investor-Owned Entities-															
24 Bennett Creek Wind	4.8	4.8	4.5	4.6	4.7	4.3	3.5	3.3	7.2	5.3	5.3	5.7	6	5.1	4.9
25 Biglow Canyon Phase I	38	58	31	34	23	32	28	37	45	55	62	57	68	55	43
26 Biglow Canyon Phase II	56	56	49	37	28	21	18	31	52	49	49	61	58	67	44
27 Biglow Canyon Phase III	66	66	57	44	33	25	21	36	61	57	57	71	68	79	51
28 Cassia Farms Wind	2	2.1	2.4	2.5	2.7	2.5	2.3	2.0	3.9	2.4	2.4	3	3.1	2.7	2.6
29 Cassia Gulch Wind	3.7	3.7	4.4	4.6	4.9	4.5	4.2	3.6	7	4.3	4.3	5.4	5.6	4.9	4.8
30 Elkhorn Valley Wind Farm	24	24	23	23	24	22	18	17	37	27	27	29	30	26	25
31 Eurus Combine Hills	13	13	12	12	14	14	14	12	18	14	14	14	14	13	14
32 Foote Creek 1	2.5	2.9	3.4	5.1	6.9	6.2	6.3	6.6	6.2	5.2	4.6	3.6	3.4	1.6	4.7
33 Fossil Gulch Wind Project	2	2.1	2.4	2.5	2.7	2.5	2.3	2.0	3.9	2.4	2.4	3	3.1	2.7	2.6
34 Goodnoe Hills	19	19	22	23	25	23	21	18	36	22	22	28	28	25	24
35 Hopkins Ridge I	38	45	30	25	39	45	58	52	52	57	55	44	54	36	44
36 Hopkins Ridge II	1.8	2.2	1.4	1.2	1.9	2.2	2.8	2.5	2.5	2.7	2.7	2.1	2.6	1.8	2.1
37 Horseshoe Bend Wind Park	2.2	2.2	2.1	2.1	2.1	2.0	1.6	1.5	3.3	2.4	2.4	2.6	2.7	2.3	2.2
38 Hot Springs Wind	3.8	3.9	4.6	4.8	5.2	4.7	4.4	3.8	7.4	4.5	4.5	5.7	5.8	5.1	5.0
39 Kettle Falls (biomass)	46	46	46	46	46	46	46	46	46	46	46	34	11	46	42
40 Klondike II	28	29	23	16	14	14	17	15	19	20	26	32	35	35	23
41 Klondike III	45	67	35	36	26	30	34	40	52	58	60	70	78	73	49
42 Klondike IIIa	23	33	18	19	31	24	18	21	27	30	31	36	40	37	27
43 Leaning Juniper	35	35	30	25	21	23	26	27	35	41	46	42	51	44	34
44 Marengo I Wind Project	29	29	29	31	33	26	23	18	51	36	36	36	41	31	32
45 Marengo II Wind Project	15	15	14	15	16	13	12	8.8	26	18	18	18	20	16	16
46 Rattlesnake Road Wind Farm	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
47 Rock River I Wind	6.3	7.3	8.6	13	18	16	16	17	16	13	12	9.3	8.6	4.2	12
48 Stateline Wind Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Vansycle Wind	7.1	8.0	6.5	6.9	8.5	8.6	9.1	7.9	11	9.5	8.0	8.7	8.5	7.7	8.3
50 Wild Horse I	55	55	52	53	54	50	41	38	84	62	62	66	69	59	57
51 Wild Horse II	11	11	10	10	10	9.6	7.9	7.3	16	12	12	13	13	11	11
52 Wolverine Creek	12	13	15	16	17	15	14	12	24	15	15	18	19	17	16
53 Total Investor-Owned Entities	624	687	567	534	530	498	480	505	779	700	714	757	787	751	630
-Other Entities-															
54 Klondike III	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 Klondike IIIa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Stateline Wind Project	6.9	8.6	7.0	7.7	8.6	7.6	7.8	6.5	12	11	9.2	9.3	10	8.2	8.6

Continued

Table A-8: Regional Renewable Resources
 PNW Loads and Resource Study
 2015 - 2016 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
57 White Creek	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1
58 Total Other Entities	7.8	10.0	7.6	8.5	9.5	8.7	8.9	7.6	13	12	11	11	12	9.4	9.7
<i>-Renewable Resources-</i>															
59 Federal System	54	68	52	57	61	59	62	60	81	74	70	74	80	66	65
60 Public Entities	330	403	296	327	355	353	351	345	475	450	467	442	511	417	392
61 Investor-Owned Entities	624	687	567	534	530	498	480	505	779	700	714	757	787	751	630
62 Other Entities	7.8	10.0	7.6	8.5	9.5	8.7	8.9	7.6	13	12	11	11	12	9.4	9.7
63 Total Renewable Resources	1016	1168	922	927	955	919	902	918	1349	1236	1262	1283	1390	1243	1096

Table A-8: Regional Renewable Resources
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Condon Wind Project	6.6	8.3	8.0	10	13	13	14	12	14	10	8.9	9.3	9.6	7.0	11
2 Foote Creek 1	1.9	2.3	2.6	4.0	5.4	4.8	5.0	5.2	4.9	4	3.6	2.8	2.6	1.3	3.7
3 Foote Creek 2	0.2	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.2	0.4
4 Foote Creek 4	2.1	2.5	2.9	4.3	5.9	5.3	5.4	5.7	5.4	4.4	3.9	3.1	2.9	1.4	4.1
5 Klondike I	10	9.7	8.2	6.2	4.9	5.2	5.7	6.4	7.4	8.6	9.4	10	12	11	8
6 Klondike III	15	23	12	12	8.7	10	12	14	18	19	20	24	26	24	17
7 Stateline Wind Project	18	22	18	20	22	19	20	17	31	27	24	24	27	21	22
8 Total Federal System	54	68	52	57	61	59	62	60	81	74	70	73	80	66	65
<i>-Public Entities-</i>															
9 Big Horn	54	64	46	57	58	59	58	62	76	82	85	67	83	60	64
10 Coffin Butte	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
11 Foote Creek 1	0.8	1.0	1.1	1.7	2.3	2.1	2.1	2.2	2.1	1.7	1.5	1.2	1.1	0.5	1.6
12 Hay Canyon Wind	31	43	24	24	42	31	23	27	35	39	40	48	53	49	36
13 Klondike III	7.6	11	6.0	6.1	4.3	5.1	5.8	6.8	8.8	9.7	10	12	13	12	8.3
14 Nine Canyon Wind Project	19	26	19	27	26	30	35	30	38	32	32	27	33	21	28
15 Pebble Springs Wind Project	24	24	29	30	33	29	27	25	46	28	28	36	37	32	31
16 Roosevelt Landfill (H.W. Hill)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17 Short Mountain	2.1	2.1	1.9	1.9	1.8	2.0	1.9	2.0	2.0	2	2	2.1	2	2.0	2.0
18 Stateline Wind Project	34	43	35	39	43	38	39	32	61	52	46	46	52	41	43
19 Tuolumne Wind	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
20 Wheatfield Wind	33	34	29	24	21	21	25	26	33	40	44	41	49	43	32
21 White Creek	59	90	39	52	60	74	72	73	82	89	100	78	97	74	72
22 Willow Creek Wind	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
23 Total Public Entities	330	404	296	327	355	353	351	346	475	450	468	441	511	417	392
<i>-Investor-Owned Entities-</i>															
24 Bennett Creek Wind	4.8	4.8	4.5	4.6	4.7	4.3	3.5	3.3	7.2	5.3	5.3	5.7	6	5.1	4.9
25 Biglow Canyon Phase I	38	58	31	34	24	32	28	37	45	55	62	57	68	55	43
26 Biglow Canyon Phase II	56	56	49	37	28	21	18	31	52	49	49	61	58	67	44
27 Biglow Canyon Phase III	66	66	57	44	33	25	21	36	61	57	57	71	68	79	52
28 Cassia Farms Wind	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
29 Cassia Gulch Wind	3.7	3.7	4.4	4.6	4.9	4.5	4.2	3.7	7	4.3	4.3	5.4	5.6	4.9	4.8
30 Elkhorn Valley Wind Farm	24	24	23	23	24	22	18	17	37	27	27	29	30	26	25
31 Eurus Combine Hills	13	13	12	12	14	14	14	13	18	14	14	14	14	13	14
32 Foote Creek 1	2.5	2.9	3.4	5.1	6.9	6.2	6.3	6.6	6.2	5.2	4.6	3.6	3.4	1.6	4.7
33 Fossil Gulch Wind Project	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
34 Goodnoe Hills	19	19	22	23	25	23	21	19	36	22	22	28	28	25	24
35 Hopkins Ridge I	38	45	30	24	39	45	58	52	52	57	55	44	54	36	44
36 Hopkins Ridge II	1.8	2.2	1.4	1.2	1.9	2.2	2.8	2.5	2.5	2.7	2.7	2.1	2.6	1.8	2.1
37 Horseshoe Bend Wind Park	2.2	2.2	2.1	2.1	2.1	2.0	1.6	1.5	3.3	2.4	2.4	2.6	2.7	2.3	2.2
38 Hot Springs Wind	3.8	3.9	4.6	4.8	5.2	4.7	4.4	3.9	7.4	4.5	4.5	5.7	5.8	5.1	5.0
39 Kettle Falls (biomass)	46	46	46	46	46	46	46	46	46	46	46	34	11	46	42
40 Klondike II	28	26	23	17	14	14	17	16	19	20	29	31	35	35	23
41 Klondike III	45	67	35	36	26	30	34	40	52	58	60	70	78	73	49
42 Klondike IIIa	23	33	18	19	32	24	18	21	27	30	31	36	40	37	27
43 Leaning Juniper	35	35	30	25	21	23	26	27	35	41	46	42	51	44	34
44 Marengo I Wind Project	29	29	29	31	33	26	23	18	51	36	36	36	41	31	32
45 Marengo II Wind Project	15	15	14	15	16	13	12	8.8	26	18	18	18	20	16	16
46 Rattlesnake Road Wind Farm	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
47 Rock River I Wind	6.3	7.4	8.6	13	18	16	16	17	16	13	12	9.3	8.6	4.2	12
48 Stateline Wind Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Vansycle Wind	7.1	7.9	6.5	6.9	8.5	8.6	9.1	7.9	11	9.5	8.1	8.6	8.5	7.7	8.3
50 Wild Horse I	55	55	52	53	54	50	41	38	84	62	62	66	69	59	57
51 Wild Horse II	11	11	10	10	10	9.6	7.9	7.3	16	12	12	13	13	11	11
52 Wolverine Creek	12	13	15	16	17	15	14	13	24	15	15	18	19	17	16
53 Total Investor-Owned Entities	624	684	567	535	530	498	480	507	779	700	717	755	787	751	630
<i>-Other Entities-</i>															
54 Klondike III	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 Klondike IIIa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Stateline Wind Project	6.9	8.5	7.0	7.8	8.6	7.6	7.8	6.5	12	11	9.3	9.3	10	8.2	8.6

Continued

Table A-8: Regional Renewable Resources
 PNW Loads and Resource Study
 2016 - 2017 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
57 White Creek	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1
58 Total Other Entities	7.8	9.9	7.6	8.6	9.5	8.7	8.9	7.6	13	12	11	10	12	9.4	9.7
<i>-Renewable Resources-</i>															
59 Federal System	54	68	52	57	61	59	62	60	81	74	70	73	80	66	65
60 Public Entities	330	404	296	327	355	353	351	346	475	450	468	441	511	417	392
61 Investor-Owned Entities	624	684	567	535	530	498	480	507	779	700	717	755	787	751	630
62 Other Entities	7.8	9.9	7.6	8.6	9.5	8.7	8.9	7.6	13	12	11	10	12	9.4	9.7
63 Total Renewable Resources	1016	1165	922	927	955	919	902	921	1349	1236	1266	1279	1390	1243	1097

Table A-8: Regional Renewable Resources
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal System-</i>															
1 Condon Wind Project	6.6	8.3	8.0	10	13	13	14	12	14	10	9	9.3	9.6	7.0	11
2 Foote Creek 1	1.9	2.3	2.6	4.0	5.4	4.8	5.0	5.2	4.9	4	3.6	2.8	2.6	1.3	3.7
3 Foote Creek 2	0.2	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.2	0.4
4 Foote Creek 4	2.1	2.5	2.9	4.3	5.9	5.3	5.4	5.7	5.4	4.4	3.9	3.1	2.9	1.4	4.1
5 Klondike I	10	9.7	8.2	6.2	4.9	5.2	5.7	6.4	7.4	8.5	9.3	10	12	11	8
6 Klondike III	15	23	12	12	8.7	10	11	14	18	19	20	24	26	24	17
7 Stateline Wind Project	18	22	18	20	22	19	20	17	31	27	24	24	27	21	22
8 Total Federal System	54	68	52	57	61	59	62	60	81	74	70	73	80	66	65
<i>-Public Entities-</i>															
9 Big Horn	54	64	46	57	58	59	58	62	76	82	86	67	83	60	64
10 Coffin Butte	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
11 Foote Creek 1	0.8	1.0	1.1	1.7	2.3	2.1	2.1	2.2	2.1	1.7	1.5	1.2	1.1	0.5	1.6
12 Hay Canyon Wind	31	43	24	24	42	31	23	27	35	39	41	48	53	49	36
13 Klondike III	7.6	11	6.0	6.1	4.3	5.1	5.7	6.8	8.8	9.7	10	12	13	12	8.3
14 Nine Canyon Wind Project	19	26	19	27	26	30	35	30	38	32	32	27	33	21	28
15 Pebble Springs Wind Project	24	24	29	30	33	29	27	25	46	28	28	36	37	32	31
16 Roosevelt Landfill (H.W. Hill)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17 Short Mountain	2.1	2.1	1.9	1.9	1.8	2.0	1.9	2.0	2.0	2	2	2.1	2	2.0	2.0
18 Stateline Wind Project	34	43	35	39	43	38	39	32	61	53	46	46	52	41	43
19 Tuolumne Wind	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
20 Wheatfield Wind	33	34	29	24	21	21	25	26	33	40	44	41	49	43	32
21 White Creek	59	90	39	52	60	74	72	73	82	89	100	78	97	74	73
22 Willow Creek Wind	25	25	21	18	16	16	18	19	25	30	33	30	36	32	24
23 Total Public Entities	330	404	296	327	355	354	351	346	475	451	467	441	511	417	392
<i>-Investor-Owned Entities-</i>															
24 Bennett Creek Wind	4.8	4.8	4.5	4.6	4.7	4.3	3.5	3.3	7.2	5.3	5.3	5.7	6	5.1	4.9
25 Biglow Canyon Phase I	38	58	31	34	24	32	28	37	45	55	62	57	68	55	43
26 Biglow Canyon Phase II	56	56	49	37	28	21	18	31	52	49	49	61	58	67	44
27 Biglow Canyon Phase III	66	66	57	44	33	25	21	36	61	57	57	71	68	79	52
28 Cassia Farms Wind	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
29 Cassia Gulch Wind	3.7	3.7	4.4	4.6	4.9	4.5	4.2	3.7	7	4.3	4.3	5.4	5.6	4.9	4.8
30 Elkhorn Valley Wind Farm	24	24	23	23	24	22	18	17	37	27	27	29	30	26	25
31 Eurus Combine Hills	13	13	12	12	14	14	14	13	18	14	14	14	14	13	14
32 Foote Creek 1	2.5	2.9	3.4	5.1	6.9	6.2	6.3	6.6	6.2	5.2	4.6	3.6	3.4	1.6	4.7
33 Fossil Gulch Wind Project	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
34 Goodnoe Hills	19	19	22	23	25	23	21	19	36	22	22	28	28	25	24
35 Hopkins Ridge I	38	45	30	24	39	45	58	52	52	57	55	44	54	36	44
36 Hopkins Ridge II	1.8	2.2	1.4	1.2	1.9	2.2	2.8	2.5	2.5	2.8	2.7	2.1	2.6	1.8	2.1
37 Horseshoe Bend Wind Park	2.2	2.2	2.1	2.1	2.1	2.0	1.6	1.5	3.3	2.4	2.4	2.6	2.7	2.3	2.2
38 Hot Springs Wind	3.8	3.9	4.6	4.8	5.2	4.7	4.4	3.9	7.4	4.5	4.5	5.7	5.8	5.1	5.0
39 Kettle Falls (biomass)	46	46	46	46	46	46	46	46	46	46	46	27	23	46	42
40 Klondike II	28	26	23	17	14	14	16	16	19	23	26	31	35	35	22
41 Klondike III	45	67	35	36	26	30	34	40	52	58	60	70	78	73	49
42 Klondike IIIa	23	33	18	19	32	24	18	21	27	30	31	36	40	37	27
43 Leaning Juniper	35	35	30	25	21	23	26	27	35	41	46	42	51	44	34
44 Marengo I Wind Project	29	29	29	31	33	26	23	18	51	36	36	36	41	31	32
45 Marengo II Wind Project	15	15	14	15	16	13	12	8.8	26	18	18	18	20	16	16
46 Rattlesnake Road Wind Farm	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
47 Rock River I Wind	6.3	7.4	8.6	13	18	16	16	17	16	13	12	9.3	8.6	4.2	12
48 Stateline Wind Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Vansycle Wind	7.1	7.9	6.5	6.9	8.5	8.6	9.1	7.9	11	9.7	8.0	8.6	8.5	7.7	8.3
50 Wild Horse I	55	55	52	53	54	50	41	38	84	62	62	66	69	59	57
51 Wild Horse II	11	11	10	10	10	9.6	7.9	7.3	16	12	12	13	13	11	11
52 Wolverine Creek	12	13	15	16	17	15	14	13	24	15	15	18	19	17	16
53 Total Investor-Owned Entities	624	684	567	535	530	499	479	507	779	702	714	748	798	751	630
<i>-Other Entities-</i>															
54 Klondike III	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 Klondike IIIa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Stateline Wind Project	6.9	8.5	7.0	7.8	8.6	7.6	7.8	6.5	12	11	9.2	9.3	10	8.2	8.6

Continued

Table A-8: Regional Renewable Resources
 PNW Loads and Resource Study
 2017 - 2018 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
57 White Creek	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1
58 Total Other Entities	7.8	9.9	7.6	8.6	9.5	8.7	8.9	7.6	13	12	11	10	12	9.4	9.7
<i>-Renewable Resources-</i>															
59 Federal System	54	68	52	57	61	59	62	60	81	74	70	73	80	66	65
60 Public Entities	330	404	296	327	355	354	351	346	475	451	467	441	511	417	392
61 Investor-Owned Entities	624	684	567	535	530	499	479	507	779	702	714	748	798	751	630
62 Other Entities	7.8	9.9	7.6	8.6	9.5	8.7	8.9	7.6	13	12	11	10	12	9.4	9.7
63 Total Renewable Resources	1016	1165	922	927	955	920	901	921	1349	1240	1262	1272	1401	1243	1097

Table A-8: Regional Renewable Resources
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Condon Wind Project	6.6	8.3	7.9	10	13	13	14	12	14	10	9	9.3	9.6	7.0	11
2 Foote Creek 1	1.9	2.3	2.6	4.0	5.4	4.8	5.0	5.2	4.9	4	3.6	2.8	2.6	1.3	3.7
3 Foote Creek 2	0.2	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.2	0.4
4 Foote Creek 4	2.1	2.5	2.9	4.3	5.9	5.3	5.4	5.7	5.3	4.4	3.9	3.1	2.9	1.4	4.1
5 Klondike I	10	9.7	8.2	6.2	4.9	5.2	5.7	6.4	7.4	8.6	9.3	10	12	11	8
6 Klondike III	15	23	12	12	8.7	10	11	14	18	19	20	24	26	24	17
7 Stateline Wind Project	18	22	18	20	22	19	20	17	31	27	24	24	27	21	22
8 Total Federal System	54	68	52	57	61	59	62	60	81	74	70	73	81	66	65
-Public Entities-															
9 Big Horn	54	64	46	57	58	59	58	62	76	82	86	67	84	60	64
10 Coffin Butte	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
11 Foote Creek 1	0.8	1.0	1.1	1.7	2.3	2.1	2.1	2.2	2.1	1.7	1.5	1.2	1.1	0.5	1.6
12 Hay Canyon Wind	31	43	24	25	42	31	23	27	35	39	41	48	53	49	36
13 Klondike III	7.6	11	6.0	6.1	4.3	5.1	5.7	6.8	8.8	9.7	10	12	13	12	8.3
14 Nine Canyon Wind Project	19	26	19	27	26	30	35	30	38	32	32	27	33	21	28
15 Pebble Springs Wind Project	24	24	29	30	33	29	27	25	46	28	28	36	37	32	31
16 Roosevelt Landfill (H.W. Hill)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17 Short Mountain	2.1	2.1	1.9	1.9	1.8	2.0	1.9	2.0	2.0	2	2	2.1	2	2.0	2.0
18 Stateline Wind Project	34	43	35	39	43	38	39	32	61	52	46	46	52	41	43
19 Tuolumne Wind	27	27	32	34	37	33	31	28	52	32	32	40	41	36	35
20 Wheatfield Wind	33	34	29	24	21	21	25	26	33	40	44	41	49	42	32
21 White Creek	59	90	39	52	60	74	72	73	82	89	100	78	97	74	73
22 Willow Creek Wind	25	25	21	18	16	16	18	19	25	30	33	30	37	32	24
23 Total Public Entities	330	404	296	327	355	354	351	346	475	450	467	441	512	415	392
-Investor-Owned Entities-															
24 Bennett Creek Wind	4.8	4.8	4.5	4.6	4.7	4.3	3.5	3.3	7.2	5.3	5.3	5.7	6	5.1	4.9
25 Biglow Canyon Phase I	38	58	31	34	24	32	28	37	45	55	62	57	69	55	43
26 Biglow Canyon Phase II	56	56	49	37	28	21	18	31	52	49	49	61	58	67	44
27 Biglow Canyon Phase III	66	66	57	44	33	25	21	36	61	57	57	71	68	79	52
28 Cassia Farms Wind	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
29 Cassia Gulch Wind	3.7	3.7	4.4	4.6	4.9	4.5	4.2	3.7	7	4.3	4.3	5.4	5.6	4.9	4.8
30 Elkhorn Valley Wind Farm	24	24	23	23	24	22	18	17	37	27	27	29	30	26	25
31 Eurus Combine Hills	13	13	12	12	14	14	14	13	18	14	14	14	14	13	14
32 Foote Creek 1	2.5	2.9	3.4	5.1	6.9	6.2	6.3	6.6	6.2	5.2	4.6	3.6	3.4	1.7	4.7
33 Fossil Gulch Wind Project	2	2.1	2.4	2.5	2.7	2.5	2.3	2.1	3.9	2.4	2.4	3	3.1	2.7	2.6
34 Goodnoe Hills	19	19	22	23	25	23	21	19	36	22	22	28	28	25	24
35 Hopkins Ridge I	38	45	30	25	39	45	58	52	52	57	55	44	55	36	44
36 Hopkins Ridge II	1.8	2.2	1.4	1.2	1.9	2.2	2.8	2.5	2.5	2.7	2.7	2.1	2.6	1.7	2.1
37 Horseshoe Bend Wind Park	2.2	2.2	2.1	2.1	2.1	2.0	1.6	1.5	3.3	2.4	2.4	2.6	2.7	2.3	2.2
38 Hot Springs Wind	3.8	3.9	4.6	4.8	5.2	4.7	4.4	3.9	7.4	4.5	4.5	5.7	5.8	5.1	5.0
39 Kettle Falls (biomass)	46	46	46	46	46	46	46	46	46	46	46	27	23	46	42
40 Klondike II	28	26	24	16	14	14	16	16	20	20	26	31	37	34	23
41 Klondike III	45	67	35	36	26	30	34	40	52	58	60	70	78	72	49
42 Klondike IIIa	23	33	18	19	32	24	18	21	27	30	31	36	40	37	27
43 Leaning Juniper	35	35	30	25	21	23	26	27	35	41	46	42	51	44	34
44 Marengo I Wind Project	29	29	29	31	33	26	23	18	51	36	36	36	41	31	32
45 Marengo II Wind Project	15	15	14	15	16	13	12	8.8	26	18	18	18	20	16	16
46 Rattlesnake Road Wind Farm	35	35	30	23	17	13	11	19	32	30	30	38	36	42	27
47 Rock River I Wind	6.3	7.4	8.6	13	18	16	16	17	16	13	12	9.3	8.6	4.2	12
48 Stateline Wind Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Vansycle Wind	7.1	7.9	6.6	6.9	8.5	8.6	9.1	7.9	11	9.5	8.0	8.6	8.6	7.6	8.3
50 Wild Horse I	55	55	52	53	54	50	41	38	84	62	62	66	69	59	57
51 Wild Horse II	11	11	10	10	10	9.6	7.9	7.3	16	12	12	13	13	11	11
52 Wolverine Creek	12	13	15	16	17	15	14	13	24	15	15	18	19	17	16
53 Total Investor-Owned Entities	624	684	568	534	530	499	479	507	781	700	714	748	801	748	631
-Other Entities-															
54 Klondike III	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 Klondike IIIa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Stateline Wind Project	6.9	8.5	7.0	7.7	8.6	7.6	7.8	6.5	12	11	9.2	9.3	10	8.1	8.6

Continued

Table A-8: Regional Renewable Resources
 PNW Loads and Resource Study
 2018 - 2019 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
57 White Creek	0.9	1.4	0.6	0.8	0.9	1.1	1.1	1.1	1.2	1.3	1.5	1.2	1.5	1.1	1.1
58 Total Other Entities	7.8	9.9	7.6	8.5	9.5	8.7	8.9	7.6	14	12	11	10	12	9.3	9.7
<i>-Renewable Resources-</i>															
59 Federal System	54	68	52	57	61	59	62	60	81	74	70	73	81	66	65
60 Public Entities	330	404	296	327	355	354	351	346	475	450	467	441	512	415	392
61 Investor-Owned Entities	624	684	568	534	530	499	479	507	781	700	714	748	801	748	631
62 Other Entities	7.8	9.9	7.6	8.5	9.5	8.7	8.9	7.6	14	12	11	10	12	9.3	9.7
63 Total Renewable Resources	1016	1165	924	927	955	920	901	921	1350	1236	1262	1272	1406	1238	1098

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Table A-9
Cogeneration
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-9: Regional Cogeneration
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Georgia-Pacific Paper (Wauna)	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
2 Total Federal System	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
-Public Entities-															
3 Grays Harbor Paper (Grays Harbor Paper)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
4 Hampton Lumber Mill (Darrington)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
5 Klamath Cogeneration Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Sierra Pacific Aberdeen (Sierra Pacific)	15	14	14	15	15	15	14	14	11	14	16	15	15	13	14
7 Sierra Pacific Burlington	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
8 Simpson Tacoma CoGen	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
9 WEYCO Energy Center	22	22	22	0	11	22	22	22	22	22	22	22	22	22	19
10 Total Public Entities	127	126	124	100	117	130	130	129	118	122	123	117	124	127	122
-Investor-Owned Entities-															
11 Coyote Springs #1	214	214	218	223	233	234	239	232	222	219	219	0	210	203	203
12 Coyote Springs #2	265	265	265	273	273	276	276	276	276	270	270	270	0	265	249
13 Georgia-Pacific Paper (Camas)	10	10	10	10	10	10	10	10	10	10	10	5.5	10	10	9.6
14 Hermiston Cogeneration	436	436	442	450	459	464	463	454	455	446	446	188	347	434	420
15 Sumas Energy	123	123	123	123	123	123	123	123	123	123	123	0	123	123	112
16 Tenaska Gas Cogen	161	161	161	161	161	161	161	161	161	161	161	0	161	161	147
17 Thompson River Co-Gen	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
18 Total Investor-Owned Entities	1219	1219	1228	1249	1268	1278	1282	1266	1257	1238	1238	472	860	1205	1151
-Other Entities-															
19 Coyote Springs #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Georgia Pacific Toledo	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
21 Georgia-Pacific Paper (Wauna)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Hermiston Power Project	620	620	620	620	620	620	620	620	0	620	620	620	620	620	567
23 Klamath Cogeneration Project	455	455	455	455	455	455	455	455	455	455	455	227	455	455	435
24 Longview Fibre Cogen 1-7	34	34	34	23	20	15	14	14	12	17	17	16	17	22	20
25 Simpson Tacoma CoGen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 SP Newsprint Cogen	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
27 Wah Chang (Albany, OR)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
28 WEYCO Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Weyerhaeuser Albany (Weyerhaeuser)	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
30 Weyerhaeuser Longview (Weyerhaeuser)	36	36	35	33	38	39	40	39	32	33	33	28	34	38	35
31 Total Other Entities	1321	1321	1320	1307	1308	1305	1305	1304	676	1301	1301	1068	1302	1311	1234
-Cogeneration-															
32 Federal System	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
33 Public Entities	127	126	124	100	117	130	130	129	118	122	123	117	124	127	122
34 Investor-Owned Entities	1219	1219	1228	1249	1268	1278	1282	1266	1257	1238	1238	472	860	1205	1151
35 Other Entities	1321	1321	1320	1307	1308	1305	1305	1304	676	1301	1301	1068	1302	1311	1234
36 Total Cogeneration	2687	2686	2693	2678	2719	2739	2744	2726	2076	2686	2688	1679	2297	2664	2530

Table A-9: Regional Cogeneration
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Georgia-Pacific Paper (Wauna)	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
2 Total Federal System	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
-Public Entities-															
3 Grays Harbor Paper (Grays Harbor Paper)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
4 Hampton Lumber Mill (Darrington)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
5 Klamath Cogeneration Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Sierra Pacific Aberdeen (Sierra Pacific)	15	14	14	15	15	15	14	14	11	14	16	15	15	13	14
7 Sierra Pacific Burlington	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
8 Simpson Tacoma CoGen	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
9 WEYCO Energy Center	22	22	16	22	22	22	22	22	22	22	22	22	22	22	22
10 Total Public Entities	127	126	118	122	128	130	130	129	118	122	123	117	124	127	124
-Investor-Owned Entities-															
11 Coyote Springs #1	214	214	218	223	233	234	239	232	222	219	219	0	210	203	203
12 Coyote Springs #2	265	265	265	273	273	276	276	276	276	270	270	270	0	265	249
13 Georgia-Pacific Paper (Camas)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
14 Hermiston Cogeneration	435	435	441	449	458	464	462	458	335	448	448	387	327	434	425
15 Sumas Energy	123	123	123	123	123	123	123	123	123	123	123	0	123	123	112
16 Tenaska Gas Cogen	161	161	161	161	161	161	161	161	161	161	161	0	161	161	147
17 Thompson River Co-Gen	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
18 Total Investor-Owned Entities	1218	1218	1227	1248	1267	1278	1280	1269	1136	1240	1240	677	840	1204	1156
-Other Entities-															
19 Coyote Springs #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Georgia Pacific Toledo	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
21 Georgia-Pacific Paper (Wauna)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Hermiston Power Project	620	620	620	620	620	620	620	620	0	620	620	620	620	620	567
23 Klamath Cogeneration Project	455	455	455	455	455	455	455	455	455	455	455	227	455	455	435
24 Longview Fibre Cogen 1-7	23	23	26	23	20	15	14	14	12	17	17	16	17	22	18
25 Simpson Tacoma CoGen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 SP Newsprint Cogen	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
27 Wah Chang (Albany, OR)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
28 WEYCO Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Weyerhaeuser Albany (Weyerhaeuser)	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
30 Weyerhaeuser Longview (Weyerhaeuser)	36	36	35	33	38	39	40	39	32	33	33	28	34	38	35
31 Total Other Entities	1310	1310	1312	1307	1308	1305	1305	1304	676	1301	1301	1068	1302	1311	1233
-Cogeneration-															
32 Federal System	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
33 Public Entities	127	126	118	122	128	130	130	129	118	122	123	117	124	127	124
34 Investor-Owned Entities	1218	1218	1227	1248	1267	1278	1280	1269	1136	1240	1240	677	840	1204	1156
35 Other Entities	1310	1310	1312	1307	1308	1305	1305	1304	676	1301	1301	1068	1302	1311	1233
36 Total Cogeneration	2675	2674	2678	2699	2729	2739	2742	2729	1956	2688	2689	1883	2277	2663	2536

Table A-9: Regional Cogeneration
PNW Loads and Resource Study
2011 - 2012 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Georgia-Pacific Paper (Wauna)	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
2 Total Federal System	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
-Public Entities-															
3 Grays Harbor Paper (Grays Harbor Paper)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
4 Hampton Lumber Mill (Darrington)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
5 Klamath Cogeneration Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Sierra Pacific Aberdeen (Sierra Pacific)	15	14	14	15	15	15	14	14	11	14	16	15	15	13	14
7 Sierra Pacific Burlington	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
8 Simpson Tacoma CoGen	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
9 WEYCO Energy Center	22	22	16	22	22	22	22	22	22	22	22	22	22	22	22
10 Total Public Entities	127	126	118	122	128	130	130	129	118	122	123	117	124	127	124
-Investor-Owned Entities-															
11 Coyote Springs #1	214	214	218	223	233	234	239	232	222	219	219	0	210	203	203
12 Coyote Springs #2	265	265	265	273	273	276	276	276	276	270	270	135	270	265	260
13 Georgia-Pacific Paper (Camas)	10	10	10	10	10	10	10	10	10	10	10	6.8	10	10	9.7
14 Hermiston Cogeneration	435	435	441	449	419	431	457	425	365	449	449	286	300	433	407
15 Sumas Energy	123	123	123	123	123	123	123	123	123	123	123	0	123	123	112
16 Tenaska Gas Cogen	161	161	161	161	161	161	161	161	161	161	161	0	161	161	147
17 Thompson River Co-Gen	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
18 Total Investor-Owned Entities	1218	1218	1227	1248	1228	1244	1276	1237	1166	1241	1241	437	1083	1204	1150
-Other Entities-															
19 Coyote Springs #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Georgia Pacific Toledo	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
21 Georgia-Pacific Paper (Wauna)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Hermiston Power Project	620	620	620	620	620	620	620	620	0	620	620	620	620	620	567
23 Klamath Cogeneration Project	455	455	455	455	455	455	455	455	455	455	455	227	455	455	435
24 Longview Fibre Cogen 1-7	23	23	26	36	39	32	38	34	30	33	33	32	32	31	32
25 Simpson Tacoma CoGen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 SP Newsprint Cogen	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
27 Wah Chang (Albany, OR)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
28 WEYCO Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Weyerhaeuser Albany (Weyerhaeuser)	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
30 Weyerhaeuser Longview (Weyerhaeuser)	36	36	35	33	38	39	40	39	32	33	33	28	34	38	35
31 Total Other Entities	1310	1310	1312	1319	1328	1322	1328	1324	694	1317	1317	1084	1317	1320	1247
-Cogeneration-															
32 Federal System	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
33 Public Entities	127	126	118	122	128	130	130	129	118	122	123	117	124	127	124
34 Investor-Owned Entities	1218	1218	1227	1248	1228	1244	1276	1237	1166	1241	1241	437	1083	1204	1150
35 Other Entities	1310	1310	1312	1319	1328	1322	1328	1324	694	1317	1317	1084	1317	1320	1247
36 Total Cogeneration	2675	2674	2678	2711	2709	2722	2761	2716	2004	2705	2706	1660	2535	2672	2544

Table A-9: Regional Cogeneration
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Georgia-Pacific Paper (Wauna)	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
2 Total Federal System	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
-Public Entities-															
3 Grays Harbor Paper (Grays Harbor Paper)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
4 Hampton Lumber Mill (Darrington)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
5 Klamath Cogeneration Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Sierra Pacific Aberdeen (Sierra Pacific)	15	14	14	15	15	15	14	14	11	14	16	15	15	13	14
7 Sierra Pacific Burlington	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
8 Simpson Tacoma CoGen	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
9 WEYCO Energy Center	22	22	16	22	22	22	22	22	22	22	22	22	22	22	22
10 Total Public Entities	127	126	118	122	128	130	130	129	118	122	123	117	124	127	124
-Investor-Owned Entities-															
11 Coyote Springs #1	214	214	218	223	233	234	239	232	222	219	219	0	210	203	203
12 Coyote Springs #2	265	265	265	273	273	276	276	276	276	270	270	270	135	265	260
13 Georgia-Pacific Paper (Camas)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
14 Hermiston Cogeneration	435	435	404	420	458	465	426	460	454	45	0	402	408	431	399
15 Sumas Energy	123	123	123	123	123	123	123	123	123	123	123	0	123	123	112
16 Tenaska Gas Cogen	161	161	161	161	161	161	161	161	161	161	161	0	161	161	147
17 Thompson River Co-Gen	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
18 Total Investor-Owned Entities	1218	1218	1190	1219	1267	1279	1244	1272	1256	837	792	692	1056	1202	1142
-Other Entities-															
19 Coyote Springs #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Georgia Pacific Toledo	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
21 Georgia-Pacific Paper (Wauna)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Hermiston Power Project	620	620	620	620	620	620	620	620	0	620	620	620	620	620	567
23 Klamath Cogeneration Project	455	455	455	455	455	455	455	455	455	455	455	227	455	455	435
24 Longview Fibre Cogen 1-7	37	37	35	36	39	32	38	34	30	33	33	32	32	31	34
25 Simpson Tacoma CoGen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 SP Newsprint Cogen	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
27 Wah Chang (Albany, OR)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
28 WEYCO Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Weyerhaeuser Albany (Weyerhaeuser)	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
30 Weyerhaeuser Longview (Weyerhaeuser)	36	36	35	33	38	39	40	39	32	33	33	28	34	38	35
31 Total Other Entities	1324	1324	1321	1319	1328	1322	1328	1324	694	1317	1317	1084	1317	1320	1249
-Cogeneration-															
32 Federal System	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
33 Public Entities	127	126	118	122	128	130	130	129	118	122	123	117	124	127	124
34 Investor-Owned Entities	1218	1218	1190	1219	1267	1279	1244	1272	1256	837	792	692	1056	1202	1142
35 Other Entities	1324	1324	1321	1319	1328	1322	1328	1324	694	1317	1317	1084	1317	1320	1249
36 Total Cogeneration	2688	2687	2650	2682	2747	2757	2730	2751	2093	2301	2257	1915	2509	2670	2537

Table A-9: Regional Cogeneration
PNW Loads and Resource Study
2013 - 2014 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Georgia-Pacific Paper (Wauna)	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
2 Total Federal System	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
-Public Entities-															
3 Grays Harbor Paper (Grays Harbor Paper)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
4 Hampton Lumber Mill (Darrington)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
5 Klamath Cogeneration Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Sierra Pacific Aberdeen (Sierra Pacific)	15	14	14	15	15	15	14	14	11	14	16	15	15	13	14
7 Sierra Pacific Burlington	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
8 Simpson Tacoma CoGen	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
9 WEYCO Energy Center	22	22	16	22	22	22	22	22	22	22	22	22	22	22	22
10 Total Public Entities	127	126	118	122	128	130	130	129	118	122	123	117	124	127	124
-Investor-Owned Entities-															
11 Coyote Springs #1	214	214	218	223	233	234	239	232	222	219	219	0	210	203	203
12 Coyote Springs #2	265	265	265	273	273	276	276	276	276	270	270	270	162	265	262
13 Georgia-Pacific Paper (Camas)	10	10	10	10	10	10	10	10	10	10	10	6.8	10	10	9.7
14 Hermiston Cogeneration	436	436	442	413	421	467	429	461	337	418	0	395	406	399	401
15 Sumas Energy	123	123	123	123	123	123	123	123	123	123	123	0	123	123	112
16 Tenaska Gas Cogen	161	161	161	161	161	161	161	161	161	161	161	0	161	161	147
17 Thompson River Co-Gen	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
18 Total Investor-Owned Entities	1218	1218	1227	1212	1230	1280	1247	1272	1138	1210	792	682	1081	1170	1146
-Other Entities-															
19 Coyote Springs #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Georgia Pacific Toledo	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
21 Georgia-Pacific Paper (Wauna)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Hermiston Power Project	620	620	620	620	620	620	620	620	0	620	620	620	620	620	567
23 Klamath Cogeneration Project	455	455	455	455	455	455	455	455	455	455	455	227	455	455	435
24 Longview Fibre Cogen 1-7	37	37	35	36	39	32	38	34	30	33	33	32	32	31	34
25 Simpson Tacoma CoGen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 SP Newsprint Cogen	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
27 Wah Chang (Albany, OR)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
28 WEYCO Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Weyerhaeuser Albany (Weyerhaeuser)	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
30 Weyerhaeuser Longview (Weyerhaeuser)	36	36	35	33	38	39	40	39	32	33	33	28	34	38	35
31 Total Other Entities	1324	1324	1321	1319	1328	1322	1328	1324	694	1317	1317	1084	1317	1320	1249
-Cogeneration-															
32 Federal System	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
33 Public Entities	127	126	118	122	128	130	130	129	118	122	123	117	124	127	124
34 Investor-Owned Entities	1218	1218	1227	1212	1230	1280	1247	1272	1138	1210	792	682	1081	1170	1146
35 Other Entities	1324	1324	1321	1319	1328	1322	1328	1324	694	1317	1317	1084	1317	1320	1249
36 Total Cogeneration	2689	2688	2687	2676	2711	2758	2733	2752	1976	2674	2257	1905	2534	2638	2541

Table A-9: Regional Cogeneration
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Georgia-Pacific Paper (Wauna)	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
2 Total Federal System	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
-Public Entities-															
3 Grays Harbor Paper (Grays Harbor Paper)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
4 Hampton Lumber Mill (Darrington)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
5 Klamath Cogeneration Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Sierra Pacific Aberdeen (Sierra Pacific)	15	14	14	15	15	15	14	14	11	14	16	15	15	13	14
7 Sierra Pacific Burlington	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
8 Simpson Tacoma CoGen	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
9 WEYCO Energy Center	22	22	16	22	22	22	22	22	22	22	22	22	22	22	22
10 Total Public Entities	127	126	118	122	128	130	130	129	118	122	123	117	124	127	124
-Investor-Owned Entities-															
11 Coyote Springs #1	214	214	218	223	233	234	239	232	222	219	219	0	210	203	203
12 Coyote Springs #2	265	265	265	273	273	276	276	276	276	270	270	270	0	265	249
13 Georgia-Pacific Paper (Camas)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
14 Hermiston Cogeneration	436	436	442	413	458	466	427	461	335	412	0	412	409	431	408
15 Sumas Energy	123	123	123	123	123	123	123	123	123	123	123	0	123	123	112
16 Tenaska Gas Cogen	161	161	161	161	161	161	161	161	161	161	161	0	161	161	147
17 Thompson River Co-Gen	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
18 Total Investor-Owned Entities	1218	1218	1227	1212	1268	1280	1245	1272	1137	1204	792	702	922	1202	1140
-Other Entities-															
19 Coyote Springs #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Georgia Pacific Toledo	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
21 Georgia-Pacific Paper (Wauna)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Hermiston Power Project	620	620	620	620	620	620	620	620	0	620	620	620	620	620	567
23 Klamath Cogeneration Project	455	455	455	455	455	455	455	455	455	455	455	227	455	455	435
24 Longview Fibre Cogen 1-7	37	37	35	36	39	32	38	34	30	33	33	32	32	31	34
25 Simpson Tacoma CoGen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 SP Newsprint Cogen	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
27 Wah Chang (Albany, OR)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
28 WEYCO Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Weyerhaeuser Albany (Weyerhaeuser)	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
30 Weyerhaeuser Longview (Weyerhaeuser)	36	36	35	33	38	39	40	39	32	33	33	28	34	38	35
31 Total Other Entities	1324	1324	1321	1319	1328	1322	1328	1324	694	1317	1317	1084	1317	1320	1249
-Cogeneration-															
32 Federal System	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
33 Public Entities	127	126	118	122	128	130	130	129	118	122	123	117	124	127	124
34 Investor-Owned Entities	1218	1218	1227	1212	1268	1280	1245	1272	1137	1204	792	702	922	1202	1140
35 Other Entities	1324	1324	1321	1319	1328	1322	1328	1324	694	1317	1317	1084	1317	1320	1249
36 Total Cogeneration	2689	2688	2687	2676	2748	2758	2730	2752	1974	2668	2257	1925	2375	2670	2535

Table A-9: Regional Cogeneration
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Georgia-Pacific Paper (Wauna)	20	20	21	22	25	26	27	27	26	0	0	0	0	0	16
2 Total Federal System	20	20	21	22	25	26	27	27	26	0	0	0	0	0	16
-Public Entities-															
3 Grays Harbor Paper (Grays Harbor Paper)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
4 Hampton Lumber Mill (Darrington)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
5 Klamath Cogeneration Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Sierra Pacific Aberdeen (Sierra Pacific)	15	14	14	15	15	15	14	14	11	14	16	15	15	13	14
7 Sierra Pacific Burlington	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
8 Simpson Tacoma CoGen	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
9 WEYCO Energy Center	22	22	16	22	22	22	22	22	22	22	22	22	22	22	22
10 Total Public Entities	127	126	118	122	128	130	130	129	118	122	123	117	124	127	124
-Investor-Owned Entities-															
11 Coyote Springs #1	214	214	218	223	233	234	239	232	222	219	219	0	210	203	203
12 Coyote Springs #2	265	265	265	273	273	276	276	276	276	270	270	270	135	265	260
13 Georgia-Pacific Paper (Camas)	10	10	10	10	10	10	10	10	10	10	10	2.6	8.3	10	9.2
14 Hermiston Cogeneration	435	435	404	420	458	465	426	460	454	45	0	402	408	431	399
15 Sumas Energy	123	123	123	123	123	123	123	123	123	123	123	0	123	123	112
16 Tenaska Gas Cogen	161	161	161	161	161	161	161	161	161	161	161	0	161	161	147
17 Thompson River Co-Gen	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
18 Total Investor-Owned Entities	1218	1218	1190	1219	1267	1279	1244	1272	1256	837	792	684	1054	1202	1141
-Other Entities-															
19 Coyote Springs #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Georgia Pacific Toledo	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
21 Georgia-Pacific Paper (Wauna)	0	0	0	0	0	0	0	0	0	25	25	22	12	20	6.7
22 Hermiston Power Project	620	620	620	620	620	620	620	620	0	620	620	620	620	620	567
23 Klamath Cogeneration Project	455	455	455	455	455	455	455	455	455	455	455	227	455	455	435
24 Longview Fibre Cogen 1-7	37	37	35	36	39	32	38	34	30	33	33	32	32	31	34
25 Simpson Tacoma CoGen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 SP Newsprint Cogen	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
27 Wah Chang (Albany, OR)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
28 WEYCO Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Weyerhaeuser Albany (Weyerhaeuser)	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
30 Weyerhaeuser Longview (Weyerhaeuser)	36	36	35	33	38	39	40	39	32	33	33	28	34	38	35
31 Total Other Entities	1324	1324	1321	1319	1328	1322	1328	1324	694	1342	1342	1106	1329	1341	1255
-Cogeneration-															
32 Federal System	20	20	21	22	25	26	27	27	26	0	0	0	0	0	16
33 Public Entities	127	126	118	122	128	130	130	129	118	122	123	117	124	127	124
34 Investor-Owned Entities	1218	1218	1190	1219	1267	1279	1244	1272	1256	837	792	684	1054	1202	1141
35 Other Entities	1324	1324	1321	1319	1328	1322	1328	1324	694	1342	1342	1106	1329	1341	1255
36 Total Cogeneration	2688	2687	2650	2682	2747	2757	2730	2751	2093	2301	2257	1907	2507	2670	2537

Table A-9: Regional Cogeneration
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Georgia-Pacific Paper (Wauna)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Public Entities-															
3 Grays Harbor Paper (Grays Harbor Paper)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
4 Hampton Lumber Mill (Darrington)	3.5	3.5	3.5	3.5	3.5	3.5	0	0	0	0	0	0	0	0	1.5
5 Klamath Cogeneration Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Sierra Pacific Aberdeen (Sierra Pacific)	15	14	14	15	15	15	14	14	11	14	16	15	15	13	14
7 Sierra Pacific Burlington	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
8 Simpson Tacoma CoGen	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
9 WEYCO Energy Center	22	22	16	22	22	22	22	22	22	22	22	22	22	22	22
10 Total Public Entities	127	126	118	122	128	130	126	125	114	118	119	113	120	124	122
-Investor-Owned Entities-															
11 Coyote Springs #1	214	214	218	223	233	234	239	232	222	219	219	0	210	203	203
12 Coyote Springs #2	265	265	265	273	273	276	276	276	276	270	0	270	270	265	260
13 Georgia-Pacific Paper (Camas)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
14 Hermiston Cogeneration	436	436	442	413	421	467	429	461	337	418	0	395	406	399	401
15 Sumas Energy	123	123	123	123	123	123	123	123	123	123	123	0	123	123	112
16 Tenaska Gas Cogen	161	161	161	161	161	161	161	161	161	161	161	0	161	161	147
17 Thompson River Co-Gen	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
18 Total Investor-Owned Entities	1218	1218	1227	1212	1230	1280	1247	1272	1138	1210	522	685	1189	1170	1144
-Other Entities-															
19 Coyote Springs #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Georgia Pacific Toledo	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
21 Georgia-Pacific Paper (Wauna)	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
22 Hermiston Power Project	620	620	620	620	620	620	620	620	0	620	620	620	620	620	567
23 Klamath Cogeneration Project	455	455	455	455	455	455	455	455	455	455	455	227	455	455	435
24 Longview Fibre Cogen 1-7	37	37	35	36	39	32	38	34	30	33	33	32	32	31	34
25 Simpson Tacoma CoGen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 SP Newsprint Cogen	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
27 Wah Chang (Albany, OR)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
28 WEYCO Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Weyerhaeuser Albany (Weyerhaeuser)	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
30 Weyerhaeuser Longview (Weyerhaeuser)	36	36	35	33	38	39	40	39	32	33	33	28	34	38	35
31 Total Other Entities	1344	1344	1342	1342	1352	1348	1356	1350	720	1342	1342	1106	1329	1341	1271
-Cogeneration-															
32 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Public Entities	127	126	118	122	128	130	126	125	114	118	119	113	120	124	122
34 Investor-Owned Entities	1218	1218	1227	1212	1230	1280	1247	1272	1138	1210	522	685	1189	1170	1144
35 Other Entities	1344	1344	1342	1342	1352	1348	1356	1350	720	1342	1342	1106	1329	1341	1271
36 Total Cogeneration	2689	2688	2687	2676	2711	2758	2729	2748	1972	2671	1984	1905	2638	2634	2537

Table A-9: Regional Cogeneration
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Georgia-Pacific Paper (Wauna)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Public Entities-															
3 Grays Harbor Paper (Grays Harbor Paper)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
4 Klamath Cogeneration Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Sierra Pacific Aberdeen (Sierra Pacific)	15	14	14	15	15	15	14	14	11	14	16	15	15	13	14
6 Sierra Pacific Burlington	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
7 Simpson Tacoma CoGen	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
8 WEYCO Energy Center	22	22	16	22	22	22	22	22	22	22	22	22	22	22	22
9 Total Public Entities	123	122	115	118	125	126	126	125	114	118	119	113	120	124	121
-Investor Owned Entities-															
10 Coyote Springs #1	214	214	218	223	233	234	239	232	222	219	219	0	210	203	203
11 Coyote Springs #2	265	265	265	273	273	276	276	276	276	0	0	270	270	265	249
12 Georgia-Pacific Paper (Camas)	10	10	10	10	10	10	10	10	10	10	10	6.8	10	10	9.7
13 Hermiston Cogeneration	436	436	442	413	458	466	427	461	335	412	0	412	409	431	408
14 Sumas Energy	123	123	123	123	123	123	123	123	123	123	123	0	123	123	112
15 Tenaska Gas Cogen	161	161	161	161	161	161	161	161	161	161	161	0	161	161	147
16 Thompson River Co-Gen	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
17 Total Investor-Owned Entities	1218	1218	1227	1212	1268	1280	1245	1272	1137	934	522	698	1192	1202	1139
-Other Entities-															
18 Coyote Springs #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Georgia Pacific Toledo	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
20 Georgia-Pacific Paper (Wauna)	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
21 Hermiston Power Project	620	620	620	620	620	620	620	620	0	620	620	620	620	620	567
22 Klamath Cogeneration Project	455	455	455	455	455	455	455	455	455	455	455	227	455	455	435
23 Longview Fibre Cogen 1-7	37	37	35	36	39	32	38	34	30	33	33	32	32	31	34
24 Simpson Tacoma CoGen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 SP Newsprint Cogen	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
26 Wah Chang (Albany, OR)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
27 WEYCO Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Weyerhaeuser Albany (Weyerhaeuser)	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
29 Weyerhaeuser Longview (Weyerhaeuser)	36	36	35	33	38	39	40	39	32	33	33	28	34	38	35
30 Total Other Entities	1344	1344	1342	1342	1352	1348	1356	1350	720	1342	1342	1106	1329	1341	1271
-Cogeneration-															
31 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Public Entities	123	122	115	118	125	126	126	125	114	118	119	113	120	124	121
33 Investor-Owned Entities	1218	1218	1227	1212	1268	1280	1245	1272	1137	934	522	698	1192	1202	1139
34 Other Entities	1344	1344	1342	1342	1352	1348	1356	1350	720	1342	1342	1106	1329	1341	1271
35 Total Cogeneration	2685	2684	2684	2672	2745	2754	2727	2748	1971	2395	1984	1918	2641	2667	2531

Table A-9: Regional Cogeneration
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Federal System-															
1 Georgia-Pacific Paper (Wauna)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Total Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Public Entities-															
3 Grays Harbor Paper (Grays Harbor Paper)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
4 Klamath Cogeneration Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Sierra Pacific Aberdeen (Sierra Pacific)	15	14	14	15	15	15	14	14	11	14	16	15	15	13	14
6 Sierra Pacific Burlington	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
7 Simpson Tacoma CoGen	45	45	44	41	47	49	50	49	40	41	41	36	43	48	44
8 WEYCO Energy Center	22	22	16	22	22	22	22	22	22	22	22	22	22	22	22
9 Total Public Entities	123	122	115	118	125	126	126	125	114	118	119	113	120	124	121
-Investor Owned Entities-															
10 Coyote Springs #1	214	214	218	223	233	234	239	232	222	219	219	0	210	203	203
11 Coyote Springs #2	265	265	265	273	273	276	276	276	276	270	270	216	67	265	250
12 Georgia-Pacific Paper (Camas)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
13 Hermiston Cogeneration	435	435	404	420	458	465	426	460	454	45	0	402	408	431	399
14 Sumas Energy	123	123	123	123	123	123	123	123	123	123	123	0	123	123	112
15 Tenaska Gas Cogen	161	161	161	161	161	161	161	161	161	161	161	0	161	161	147
16 Thompson River Co-Gen	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
17 Total Investor-Owned Entities	1218	1218	1190	1219	1267	1279	1244	1272	1256	837	792	638	988	1202	1132
-Other Entities-															
18 Coyote Springs #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Georgia Pacific Toledo	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
20 Georgia-Pacific Paper (Wauna)	20	20	21	22	25	26	27	27	26	25	25	22	12	20	23
21 Hermiston Power Project	620	620	620	620	620	620	620	620	0	620	620	620	620	620	567
22 Klamath Cogeneration Project	455	455	455	455	455	455	455	455	455	455	455	455	455	455	455
23 Longview Fibre Cogen 1-7	37	37	35	36	39	32	38	34	30	33	33	32	32	31	34
24 Simpson Tacoma CoGen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 SP Newsprint Cogen	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
26 Wah Chang (Albany, OR)	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
27 WEYCO Energy Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Weyerhaeuser Albany (Weyerhaeuser)	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
29 Weyerhaeuser Longview (Weyerhaeuser)	36	36	35	33	38	39	40	39	32	33	33	28	34	38	35
30 Total Other Entities	1344	1344	1342	1342	1352	1348	1356	1350	720	1342	1342	1334	1329	1341	1291
-Cogeneration-															
31 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Public Entities	123	122	115	118	125	126	126	125	114	118	119	113	120	124	121
33 Investor-Owned Entities	1218	1218	1190	1219	1267	1279	1244	1272	1256	837	792	638	988	1202	1132
34 Other Entities	1344	1344	1342	1342	1352	1348	1356	1350	720	1342	1342	1334	1329	1341	1291
35 Total Cogeneration	2684	2683	2646	2679	2744	2753	2726	2747	2090	2297	2254	2085	2438	2666	2543

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Table A-10
Large Thermal
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-10: Regional Large Thermal
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Boardman: Coal-															
1 Idaho Power Company	34	34	34	34	34	34	34	34	34	16	17	1.1	34	34	30
2 Portland General Electric	220	220	220	220	220	220	220	220	220	106	113	7.1	220	220	192
3 San Diego Gas & Electric	50	50	50	50	50	50	50	50	50	24	26	1.6	50	50	44
4 Turlock Irrigation District	34	34	34	34	34	34	34	34	34	16	17	1.1	34	34	30
5 Boardman: Regional Total	337	337	337	337	337	337	337	337	337	163	174	11	337	337	295
-Centralia #1: Coal-															
6 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	566	0	0	445	626	626	554
7 Centralia #1: Regional Total	626	626	626	626	626	626	626	626	566	0	0	445	626	626	554
-Centralia #2: Coal-															
8 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
9 Centralia #2: Regional Total	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
-Colstrip #1: Coal-															
10 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Puget Sound Energy	143	143	140	140	140	140	140	140	140	140	140	126	126	114	136
12 Colstrip #1: Regional Total	143	143	140	140	140	140	140	140	140	140	140	126	126	114	136
-Colstrip #2: Coal-															
13 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Puget Sound Energy	143	143	140	140	140	140	140	140	140	140	140	126	126	114	136
15 Colstrip #2: Regional Total	143	143	140	140	140	140	140	140	140	140	140	126	126	114	136
-Colstrip #3: Coal-															
16 Avista Corp (WWP Division)	106	106	103	103	103	103	103	103	103	103	103	55	55	65	92
17 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Pacific Power	71	71	69	69	69	69	69	69	69	69	69	37	37	43	61
19 Portland General Electric	141	141	137	137	137	137	137	137	137	137	137	73	73	87	123
20 Puget Sound Energy	177	177	172	172	172	172	172	172	172	172	172	92	92	108	153
21 Colstrip #3: Regional Total	495	495	481	481	481	481	481	481	481	481	481	257	257	303	430
-Colstrip #4: Coal-															
22 Avista Corp (WWP Division)	106	106	106	106	106	106	106	106	106	106	106	102	106	106	106
23 Northwestern Energy LLC (MPC)	212	212	212	212	212	212	212	212	212	212	212	204	212	212	211
24 Pacific Power	71	71	71	71	71	71	71	71	71	71	71	68	71	71	70
25 Portland General Electric	141	141	141	141	141	141	141	141	141	141	141	136	141	141	141
26 Puget Sound Energy	177	177	177	177	177	177	177	177	177	177	177	170	177	177	176
27 Colstrip #4: Regional Total	707	707	707	707	707	707	707	707	707	707	707	679	707	707	705
-Columbia Generating Station: Uranium-															
28 BPA - Power Business	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
29 Columbia Generating Station: Regional Total	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
-Jim Bridger #1: Coal-															
30 Idaho Power Company	161	161	161	161	161	161	161	161	143	107	0	57	161	161	142
31 Pacific Power	322	322	322	322	322	322	322	322	287	215	0	114	322	322	284
32 Jim Bridger #1: Regional Total	483	483	483	483	483	483	483	483	430	322	0	171	483	483	426
-Jim Bridger #2: Coal-															
33 Idaho Power Company	163	163	163	163	163	163	163	163	163	163	163	163	163	163	163
34 Pacific Power	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
35 Jim Bridger #2: Regional Total	488	488	488	488	488	488	488	488	488	488	488	488	488	488	488
-Jim Bridger #3: Coal-															
36 Idaho Power Company	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
37 Pacific Power	318	318	318	318	318	318	318	318	318	318	318	318	318	318	318
38 Jim Bridger #3: Regional Total	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477

Continued

Table A-10: Regional Large Thermal
PNW Loads and Resource Study
2009 - 2010 Operating Year
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7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Jim Bridger #4: Coal-</i>															
39 Idaho Power Company	154	154	154	154	154	154	154	154	114	154	154	154	154	154	150
40 Pacific Power	307	307	307	307	307	307	307	307	228	307	307	307	307	307	301
41 Jim Bridger #4: Regional Total	461	461	461	461	461	461	461	461	342	461	461	461	461	461	451
<i>-Valmy #1: Coal-</i>															
42 Idaho Power Company	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
43 Valmy #1: Regional Total	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
<i>-Valmy #2: Coal-</i>															
44 Idaho Power Company	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
45 Valmy #2: Regional Total	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
<i>-Total Large Thermal-</i>															
46 Federal System	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
47 Public Entities	34	34	34	34	34	34	34	34	34	16	17	1.1	34	34	30
48 Investor-Owned Entities	3935	3935	3916	3916	3916	3916	3916	3916	3662	3599	3261	3030	3664	3684	3741
49 Other Entities	1253	1253	1253	1253	1253	1253	1253	1253	1192	626	626	1071	1253	1253	1181
50 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Total Large Thermal	6252	6252	6232	6232	6232	6232	6232	6232	5917	5271	4935	5133	5980	6001	5981

Table A-10: Regional Large Thermal
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Boardman: Coal-															
1 Idaho Power Company	34	34	34	34	34	34	34	34	34	16	8.4	25	34	34	31
2 Portland General Electric	220	220	220	220	220	220	220	220	220	106	55	161	220	220	203
3 San Diego Gas & Electric	50	50	50	50	50	50	50	50	50	24	12	37	50	50	46
4 Turlock Irrigation District	34	34	34	34	34	34	34	34	34	16	8.4	25	34	34	31
5 Boardman: Regional Total	337	337	337	337	337	337	337	337	337	163	84	247	337	337	312
-Centralia #1: Coal-															
6 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
7 Centralia #1: Regional Total	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
-Centralia #2: Coal-															
8 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	566	0	0	445	626	626	554
9 Centralia #2: Regional Total	626	626	626	626	626	626	626	626	566	0	0	445	626	626	554
-Colstrip #1: Coal-															
10 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Puget Sound Energy	140	140	140	140	140	140	140	140	140	140	140	138	138	68	134
12 Colstrip #1: Regional Total	140	140	140	140	140	140	140	140	140	140	140	138	138	68	134
-Colstrip #2: Coal-															
13 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Puget Sound Energy	140	140	140	140	140	140	140	140	140	140	140	138	138	68	134
15 Colstrip #2: Regional Total	140	140	140	140	140	140	140	140	140	140	140	138	138	68	134
-Colstrip #3: Coal-															
16 Avista Corp (WWP Division)	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103
17 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Pacific Power	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
19 Portland General Electric	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
20 Puget Sound Energy	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
21 Colstrip #3: Regional Total	481	481	481	481	481	481	481	481	481	481	481	481	481	481	481
-Colstrip #4: Coal-															
22 Avista Corp (WWP Division)	106	106	106	106	106	106	106	106	106	106	106	102	106	106	106
23 Northwestern Energy LLC (MPC)	212	212	212	212	212	212	212	212	212	212	212	204	212	212	211
24 Pacific Power	71	71	71	71	71	71	71	71	71	71	71	68	71	71	70
25 Portland General Electric	141	141	141	141	141	141	141	141	141	141	141	136	141	141	141
26 Puget Sound Energy	177	177	177	177	177	177	177	177	177	177	177	170	177	177	176
27 Colstrip #4: Regional Total	707	707	707	707	707	707	707	707	707	707	707	679	707	707	705
-Columbia Generating Station: Uranium-															
28 BPA - Power Business	1030	1030	1030	1030	1030	1030	1030	1030	1030	550	0	0	0	897	785
29 Columbia Generating Station: Regional Total	1030	1030	1030	1030	1030	1030	1030	1030	1030	550	0	0	0	897	785
-Jim Bridger #1: Coal-															
30 Idaho Power Company	161	161	161	161	161	161	161	161	161	161	161	161	161	161	161
31 Pacific Power	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322
32 Jim Bridger #1: Regional Total	483	483	483	483	483	483	483	483	483	483	483	483	483	483	483
-Jim Bridger #2: Coal-															
33 Idaho Power Company	163	163	163	163	163	163	163	163	163	163	163	103	163	163	158
34 Pacific Power	325	325	325	325	325	325	325	325	325	325	325	206	325	325	315
35 Jim Bridger #2: Regional Total	488	488	488	488	488	488	488	488	488	488	488	308	488	488	473
-Jim Bridger #3: Coal-															
36 Idaho Power Company	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
37 Pacific Power	318	318	318	318	318	318	318	318	318	318	318	318	318	318	318
38 Jim Bridger #3: Regional Total	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477

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Table A-10: Regional Large Thermal
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7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Jim Bridger #4: Coal-</i>															
39 Idaho Power Company	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154
40 Pacific Power	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307
41 Jim Bridger #4: Regional Total	461	461	461	461	461	461	461	461	461	461	461	461	461	461	461
<i>-Valmy #1: Coal-</i>															
42 Idaho Power Company	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
43 Valmy #1: Regional Total	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
<i>-Valmy #2: Coal-</i>															
44 Idaho Power Company	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
45 Valmy #2: Regional Total	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
<i>-Total Large Thermal-</i>															
46 Federal System	1030	1030	1030	1030	1030	1030	1030	1030	1030	550	0	0	0	897	785
47 Public Entities	34	34	34	34	34	34	34	34	34	16	8.4	25	34	34	31
48 Investor-Owned Entities	3916	3916	3916	3916	3916	3916	3916	3916	3833	3760	3663	3622	3911	3771	3855
49 Other Entities	1253	1253	1253	1253	1253	1253	1253	1253	1192	626	626	1071	1253	1253	1181
50 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Total Large Thermal	6232	6232	6232	6232	6232	6232	6232	6232	6089	4952	4298	4718	5197	5954	5851

Table A-10: Regional Large Thermal
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Boardman: Coal-															
1 Idaho Power Company	34	34	34	34	34	34	34	34	34	16	6.2	12	34	34	30
2 Portland General Electric	220	220	220	220	220	220	220	220	220	106	40	78	220	220	196
3 San Diego Gas & Electric	50	50	50	50	50	50	50	50	50	24	9.1	18	50	50	44
4 Turlock Irrigation District	34	34	34	34	34	34	34	34	34	16	6.2	12	34	34	30
5 Boardman: Regional Total	337	337	337	337	337	337	337	337	337	163	62	119	337	337	300
-Centralia #1: Coal-															
6 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	40	626	626	577
7 Centralia #1: Regional Total	626	626	626	626	626	626	626	626	626	626	626	40	626	626	577
-Centralia #2: Coal-															
8 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
9 Centralia #2: Regional Total	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
-Colstrip #1: Coal-															
10 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Puget Sound Energy	70	140	140	140	140	140	140	140	140	140	140	140	140	93	134
12 Colstrip #1: Regional Total	70	140	140	140	140	140	140	140	140	140	140	140	140	93	134
-Colstrip #2: Coal-															
13 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Puget Sound Energy	70	140	140	140	140	140	140	140	140	140	140	140	140	93	134
15 Colstrip #2: Regional Total	70	140	140	140	140	140	140	140	140	140	140	140	140	93	134
-Colstrip #3: Coal-															
16 Avista Corp (WWP Division)	103	103	103	103	103	103	103	103	103	103	103	103	103	62	100
17 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Pacific Power	69	69	69	69	69	69	69	69	69	69	69	69	69	41	66
19 Portland General Electric	137	137	137	137	137	137	137	137	137	137	137	137	137	82	133
20 Puget Sound Energy	172	172	172	172	172	172	172	172	172	172	172	172	172	102	166
21 Colstrip #3: Regional Total	481	481	481	481	481	481	481	481	481	481	481	481	481	287	464
-Colstrip #4: Coal-															
22 Avista Corp (WWP Division)	106	106	106	106	106	106	106	106	92	0	0	75	106	106	94
23 Northwestern Energy LLC (MPC)	212	212	212	212	212	212	212	212	185	0	0	151	212	212	187
24 Pacific Power	71	71	71	71	71	71	71	71	62	0	0	50	71	71	62
25 Portland General Electric	141	141	141	141	141	141	141	141	123	0	0	100	141	141	125
26 Puget Sound Energy	177	177	177	177	177	177	177	177	154	0	0	126	177	177	156
27 Colstrip #4: Regional Total	707	707	707	707	707	707	707	707	616	0	0	502	707	707	624
-Columbia Generating Station: Uranium-															
28 BPA - Power Business	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
29 Columbia Generating Station: Regional Total	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
-Jim Bridger #1: Coal-															
30 Idaho Power Company	161	161	161	161	161	161	161	161	161	161	139	140	161	161	158
31 Pacific Power	322	322	322	322	322	322	322	322	322	322	279	280	322	322	317
32 Jim Bridger #1: Regional Total	483	483	483	483	483	483	483	483	483	483	418	420	483	483	475
-Jim Bridger #2: Coal-															
33 Idaho Power Company	163	163	163	163	163	163	163	163	163	163	163	163	163	163	163
34 Pacific Power	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
35 Jim Bridger #2: Regional Total	488	488	488	488	488	488	488	488	488	488	488	488	488	488	488
-Jim Bridger #3: Coal-															
36 Idaho Power Company	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
37 Pacific Power	318	318	318	318	318	318	318	318	318	318	318	318	318	318	318
38 Jim Bridger #3: Regional Total	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477

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Table A-10: Regional Large Thermal
PNW Loads and Resource Study
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Jim Bridger #4: Coal-</i>															
39 Idaho Power Company	154	154	154	154	154	154	154	154	154	154	38	51	126	154	138
40 Pacific Power	307	307	307	307	307	307	307	307	307	307	75	103	253	307	276
41 Jim Bridger #4: Regional Total	461	461	461	461	461	461	461	461	461	461	113	154	379	461	414
<i>-Valmy #1: Coal-</i>															
42 Idaho Power Company	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
43 Valmy #1: Regional Total	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
<i>-Valmy #2: Coal-</i>															
44 Idaho Power Company	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
45 Valmy #2: Regional Total	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
<i>-Total Large Thermal-</i>															
46 Federal System	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
47 Public Entities	34	34	34	34	34	34	34	34	34	16	6.2	12	34	34	30
48 Investor-Owned Entities	3776	3916	3916	3916	3916	3916	3916	3916	3742	3052	2522	3145	3834	3627	3707
49 Other Entities	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	667	1253	1253	1203
50 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Total Large Thermal	6092	6232	6232	6232	6232	6232	6232	6232	6058	5351	4811	4854	6151	5944	5970

Table A-10: Regional Large Thermal
PNW Loads and Resource Study
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7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Boardman: Coal-															
1 Idaho Power Company	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
2 Portland General Electric	220	220	220	220	220	220	220	220	220	106	33	85	220	220	196
3 San Diego Gas & Electric	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
4 Turlock Irrigation District	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
5 Boardman: Regional Total	337	337	337	337	337	337	337	337	337	163	50	130	337	337	300
-Centralia #1: Coal-															
6 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
7 Centralia #1: Regional Total	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
-Centralia #2: Coal-															
8 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	40	626	626	577
9 Centralia #2: Regional Total	626	626	626	626	626	626	626	626	626	626	626	40	626	626	577
-Colstrip #1: Coal-															
10 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Puget Sound Energy	72	140	140	140	140	140	140	140	140	140	140	126	126	114	133
12 Colstrip #1: Regional Total	72	140	140	140	140	140	140	140	140	140	140	126	126	114	133
-Colstrip #2: Coal-															
13 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Puget Sound Energy	72	140	140	140	140	140	140	140	140	140	140	126	126	114	133
15 Colstrip #2: Regional Total	72	140	140	140	140	140	140	140	140	140	140	126	126	114	133
-Colstrip #3: Coal-															
16 Avista Corp (WWP Division)	70	103	103	103	103	103	103	103	103	103	103	62	62	70	92
17 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Pacific Power	47	69	69	69	69	69	69	69	69	69	69	41	41	47	61
19 Portland General Electric	94	137	137	137	137	137	137	137	137	137	137	83	83	93	123
20 Puget Sound Energy	118	172	172	172	172	172	172	172	172	172	172	103	103	117	153
21 Colstrip #3: Regional Total	329	481	481	481	481	481	481	481	481	481	481	289	289	327	430
-Colstrip #4: Coal-															
22 Avista Corp (WWP Division)	106	106	106	106	106	106	106	106	106	106	106	102	106	106	106
23 Northwestern Energy LLC (MPC)	212	212	212	212	212	212	212	212	212	212	212	204	212	212	211
24 Pacific Power	71	71	71	71	71	71	71	71	71	71	71	68	71	71	70
25 Portland General Electric	141	141	141	141	141	141	141	141	141	141	141	136	141	141	141
26 Puget Sound Energy	177	177	177	177	177	177	177	177	177	177	177	170	177	177	176
27 Colstrip #4: Regional Total	707	707	707	707	707	707	707	707	707	707	707	679	707	707	705
-Columbia Generating Station: Uranium-															
28 BPA - Power Business	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	332	0	930	878
29 Columbia Generating Station: Regional Total	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	332	0	930	878
-Jim Bridger #1: Coal-															
30 Idaho Power Company	161	161	161	161	161	161	161	161	161	161	129	161	161	161	160
31 Pacific Power	322	322	322	322	322	322	322	322	322	322	257	322	322	322	319
32 Jim Bridger #1: Regional Total	483	483	483	483	483	483	483	483	483	483	386	483	483	483	479
-Jim Bridger #2: Coal-															
33 Idaho Power Company	163	163	163	163	163	163	163	163	135	127	0	163	163	163	152
34 Pacific Power	325	325	325	325	325	325	325	325	271	254	0	325	325	325	304
35 Jim Bridger #2: Regional Total	488	488	488	488	488	488	488	488	406	382	0	488	488	488	457
-Jim Bridger #3: Coal-															
36 Idaho Power Company	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
37 Pacific Power	318	318	318	318	318	318	318	318	318	318	318	318	318	318	318
38 Jim Bridger #3: Regional Total	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477

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Table A-10: Regional Large Thermal
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7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Jim Bridger #4: Coal-</i>															
39 Idaho Power Company	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154
40 Pacific Power	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307
41 Jim Bridger #4: Regional Total	461	461	461	461	461	461	461	461	461	461	461	461	461	461	461
<i>-Valmy #1: Coal-</i>															
42 Idaho Power Company	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
43 Valmy #1: Regional Total	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
<i>-Valmy #2: Coal-</i>															
44 Idaho Power Company	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
45 Valmy #2: Regional Total	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
<i>-Total Large Thermal-</i>															
46 Federal System	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	332	0	930	878
47 Public Entities	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
48 Investor-Owned Entities	3628	3916	3916	3916	3916	3916	3916	3916	3752	3653	3048	3482	3696	3708	3771
49 Other Entities	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	667	1253	1253	1203
50 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Total Large Thermal	5945	6232	6232	6232	6232	6232	6232	6232	6068	5952	5335	4494	4983	5924	5882

Table A-10: Regional Large Thermal
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Boardman: Coal-															
1 Idaho Power Company	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
2 Portland General Electric	220	220	220	220	220	220	220	220	220	106	33	85	220	220	196
3 San Diego Gas & Electric	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
4 Turlock Irrigation District	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
5 Boardman: Regional Total	337	337	337	337	337	337	337	337	337	163	50	130	337	337	300
-Centralia #1: Coal-															
6 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	40	626	626	577
7 Centralia #1: Regional Total	626	626	626	626	626	626	626	626	626	626	626	40	626	626	577
-Centralia #2: Coal-															
8 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
9 Centralia #2: Regional Total	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
-Colstrip #1: Coal-															
10 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Puget Sound Energy	140	140	140	140	140	140	140	140	140	140	140	138	138	68	134
12 Colstrip #1: Regional Total	140	140	140	140	140	140	140	140	140	140	140	138	138	68	134
-Colstrip #2: Coal-															
13 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Puget Sound Energy	140	140	140	140	140	140	140	140	140	140	140	138	138	68	134
15 Colstrip #2: Regional Total	140	140	140	140	140	140	140	140	140	140	140	138	138	68	134
-Colstrip #3: Coal-															
16 Avista Corp (WWP Division)	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103
17 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Pacific Power	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
19 Portland General Electric	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
20 Puget Sound Energy	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
21 Colstrip #3: Regional Total	481	481	481	481	481	481	481	481	481	481	481	481	481	481	481
-Colstrip #4: Coal-															
22 Avista Corp (WWP Division)	106	106	106	106	106	106	106	106	106	106	106	102	106	106	106
23 Northwestern Energy LLC (MPC)	212	212	212	212	212	212	212	212	212	212	212	204	212	212	211
24 Pacific Power	71	71	71	71	71	71	71	71	71	71	71	68	71	71	70
25 Portland General Electric	141	141	141	141	141	141	141	141	141	141	141	136	141	141	141
26 Puget Sound Energy	177	177	177	177	177	177	177	177	177	177	177	170	177	177	176
27 Colstrip #4: Regional Total	707	707	707	707	707	707	707	707	707	707	707	679	707	707	705
-Columbia Generating Station: Uranium-															
28 BPA - Power Business	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
29 Columbia Generating Station: Regional Total	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
-Jim Bridger #1: Coal-															
30 Idaho Power Company	161	161	161	161	161	161	161	161	150	107	0	54	161	161	142
31 Pacific Power	322	322	322	322	322	322	322	322	301	215	0	107	322	322	284
32 Jim Bridger #1: Regional Total	483	483	483	483	483	483	483	483	451	322	0	161	483	483	427
-Jim Bridger #2: Coal-															
33 Idaho Power Company	163	163	163	163	163	163	163	163	163	163	163	163	163	163	163
34 Pacific Power	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
35 Jim Bridger #2: Regional Total	488	488	488	488	488	488	488	488	488	488	488	488	488	488	488
-Jim Bridger #3: Coal-															
36 Idaho Power Company	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
37 Pacific Power	318	318	318	318	318	318	318	318	318	318	318	318	318	318	318
38 Jim Bridger #3: Regional Total	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477

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Table A-10: Regional Large Thermal
PNW Loads and Resource Study
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7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Jim Bridger #4: Coal-</i>															
39 Idaho Power Company	154	154	154	154	154	154	154	154	97	154	154	154	154	154	149
40 Pacific Power	307	307	307	307	307	307	307	307	195	307	307	307	307	307	298
41 Jim Bridger #4: Regional Total	461	461	461	461	461	461	461	461	292	461	461	461	461	461	447
<i>-Valmy #1: Coal-</i>															
42 Idaho Power Company	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
43 Valmy #1: Regional Total	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
<i>-Valmy #2: Coal-</i>															
44 Idaho Power Company	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
45 Valmy #2: Regional Total	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
<i>-Total Large Thermal-</i>															
46 Federal System	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
47 Public Entities	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
48 Investor-Owned Entities	3916	3916	3916	3916	3916	3916	3916	3916	3633	3599	3150	3375	3911	3771	3789
49 Other Entities	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	667	1253	1253	1203
50 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Total Large Thermal	6232	6232	6232	6232	6232	6232	6232	6232	5949	5898	5437	5085	6227	6087	6052

Table A-10: Regional Large Thermal
PNW Loads and Resource Study
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7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Boardman: Coal-															
1 Idaho Power Company	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
2 Portland General Electric	220	220	220	220	220	220	220	220	220	106	33	85	220	220	196
3 San Diego Gas & Electric	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
4 Turlock Irrigation District	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
5 Boardman: Regional Total	337	337	337	337	337	337	337	337	337	163	50	130	337	337	300
-Centralia #1: Coal-															
6 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
7 Centralia #1: Regional Total	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
-Centralia #2: Coal-															
8 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	40	626	626	577
9 Centralia #2: Regional Total	626	626	626	626	626	626	626	626	626	626	626	40	626	626	577
-Colstrip #1: Coal-															
10 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Puget Sound Energy	70	140	140	140	140	140	140	140	140	140	140	140	140	93	134
12 Colstrip #1: Regional Total	70	140	140	140	140	140	140	140	140	140	140	140	140	93	134
-Colstrip #2: Coal-															
13 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Puget Sound Energy	70	140	140	140	140	140	140	140	140	140	140	140	140	93	134
15 Colstrip #2: Regional Total	70	140	140	140	140	140	140	140	140	140	140	140	140	93	134
-Colstrip #3: Coal-															
16 Avista Corp (WWP Division)	103	103	103	103	103	103	103	103	103	103	103	103	103	62	100
17 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Pacific Power	69	69	69	69	69	69	69	69	69	69	69	69	69	41	66
19 Portland General Electric	137	137	137	137	137	137	137	137	137	137	137	137	137	82	133
20 Puget Sound Energy	172	172	172	172	172	172	172	172	172	172	172	172	172	102	166
21 Colstrip #3: Regional Total	481	481	481	481	481	481	481	481	481	481	481	481	481	287	464
-Colstrip #4: Coal-															
22 Avista Corp (WWP Division)	106	106	106	106	106	106	106	106	92	0	0	75	106	106	94
23 Northwestern Energy LLC (MPC)	212	212	212	212	212	212	212	212	185	0	0	151	212	212	187
24 Pacific Power	71	71	71	71	71	71	71	71	62	0	0	50	71	71	62
25 Portland General Electric	141	141	141	141	141	141	141	141	123	0	0	100	141	141	125
26 Puget Sound Energy	177	177	177	177	177	177	177	177	154	0	0	126	177	177	156
27 Colstrip #4: Regional Total	707	707	707	707	707	707	707	707	616	0	0	502	707	707	624
-Columbia Generating Station: Uranium-															
28 BPA - Power Business	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	498	0	764	878
29 Columbia Generating Station: Regional Total	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	498	0	764	878
-Jim Bridger #1: Coal-															
30 Idaho Power Company	161	161	161	161	161	161	161	161	161	161	161	161	161	161	161
31 Pacific Power	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322
32 Jim Bridger #1: Regional Total	483	483	483	483	483	483	483	483	483	483	483	483	483	483	483
-Jim Bridger #2: Coal-															
33 Idaho Power Company	163	163	163	163	163	163	163	163	103	163	163	163	163	163	158
34 Pacific Power	325	325	325	325	325	325	325	325	205	325	325	325	325	325	315
35 Jim Bridger #2: Regional Total	488	488	488	488	488	488	488	488	308	488	488	488	488	488	473
-Jim Bridger #3: Coal-															
36 Idaho Power Company	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
37 Pacific Power	318	318	318	318	318	318	318	318	318	318	318	318	318	318	318
38 Jim Bridger #3: Regional Total	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477

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Table A-10: Regional Large Thermal
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7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Jim Bridger #4: Coal-</i>															
39 Idaho Power Company	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154
40 Pacific Power	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307
41 Jim Bridger #4: Regional Total	461	461	461	461	461	461	461	461	461	461	461	461	461	461	461
<i>-Valmy #1: Coal-</i>															
42 Idaho Power Company	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
43 Valmy #1: Regional Total	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
<i>-Valmy #2: Coal-</i>															
44 Idaho Power Company	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
45 Valmy #2: Regional Total	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
<i>-Total Large Thermal-</i>															
46 Federal System	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	498	0	764	878
47 Public Entities	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
48 Investor-Owned Entities	3776	3916	3916	3916	3916	3916	3916	3916	3562	3052	2926	3525	3916	3627	3746
49 Other Entities	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	667	1253	1253	1203
50 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Total Large Thermal	6092	6232	6232	6232	6232	6232	6232	6232	5878	5351	5213	4703	5202	5678	5857

Table A-10: Regional Large Thermal
PNW Loads and Resource Study
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7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Boardman: Coal-															
1 Idaho Power Company	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
2 Portland General Electric	220	220	220	220	220	220	220	220	220	106	33	85	220	220	196
3 San Diego Gas & Electric	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
4 Turlock Irrigation District	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
5 Boardman: Regional Total	337	337	337	337	337	337	337	337	337	163	50	130	337	337	300
-Centralia #1: Coal-															
6 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	566	0	0	445	626	626	554
7 Centralia #1: Regional Total	626	626	626	626	626	626	626	626	566	0	0	445	626	626	554
-Centralia #2: Coal-															
8 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
9 Centralia #2: Regional Total	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
-Colstrip #1: Coal-															
10 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Puget Sound Energy	72	140	140	140	140	140	140	140	140	140	140	126	126	114	133
12 Colstrip #1: Regional Total	72	140	140	140	140	140	140	140	140	140	140	126	126	114	133
-Colstrip #2: Coal-															
13 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Puget Sound Energy	72	140	140	140	140	140	140	140	140	140	140	126	126	114	133
15 Colstrip #2: Regional Total	72	140	140	140	140	140	140	140	140	140	140	126	126	114	133
-Colstrip #3: Coal-															
16 Avista Corp (WWP Division)	70	103	103	103	103	103	103	103	103	103	103	62	62	70	92
17 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Pacific Power	47	69	69	69	69	69	69	69	69	69	69	41	41	47	61
19 Portland General Electric	94	137	137	137	137	137	137	137	137	137	137	83	83	93	123
20 Puget Sound Energy	118	172	172	172	172	172	172	172	172	172	172	103	103	117	153
21 Colstrip #3: Regional Total	329	481	481	481	481	481	481	481	481	481	481	289	289	327	430
-Colstrip #4: Coal-															
22 Avista Corp (WWP Division)	106	106	106	106	106	106	106	106	106	106	106	102	106	106	106
23 Northwestern Energy LLC (MPC)	212	212	212	212	212	212	212	212	212	212	212	204	212	212	211
24 Pacific Power	71	71	71	71	71	71	71	71	71	71	71	68	71	71	70
25 Portland General Electric	141	141	141	141	141	141	141	141	141	141	141	136	141	141	141
26 Puget Sound Energy	177	177	177	177	177	177	177	177	177	177	177	170	177	177	176
27 Colstrip #4: Regional Total	707	707	707	707	707	707	707	707	707	707	707	679	707	707	705
-Columbia Generating Station: Uranium-															
28 BPA - Power Business	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
29 Columbia Generating Station: Regional Total	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
-Jim Bridger #1: Coal-															
30 Idaho Power Company	161	161	161	161	161	161	161	161	161	115	0	161	161	161	153
31 Pacific Power	322	322	322	322	322	322	322	322	322	229	0	322	322	322	305
32 Jim Bridger #1: Regional Total	483	483	483	483	483	483	483	483	483	344	0	483	483	483	458
-Jim Bridger #2: Coal-															
33 Idaho Power Company	163	163	163	163	163	163	163	163	163	163	163	163	163	163	163
34 Pacific Power	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
35 Jim Bridger #2: Regional Total	488	488	488	488	488	488	488	488	488	488	488	488	488	488	488
-Jim Bridger #3: Coal-															
36 Idaho Power Company	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
37 Pacific Power	318	318	318	318	318	318	318	318	318	318	318	318	318	318	318
38 Jim Bridger #3: Regional Total	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477

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Table A-10: Regional Large Thermal
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7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Jim Bridger #4: Coal-</i>															
39 Idaho Power Company	154	154	154	154	154	154	154	154	154	154	51	81	154	154	143
40 Pacific Power	307	307	307	307	307	307	307	307	307	307	102	162	307	307	287
41 Jim Bridger #4: Regional Total	461	461	461	461	461	461	461	461	461	461	153	243	461	461	430
<i>-Valmy #1: Coal-</i>															
42 Idaho Power Company	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
43 Valmy #1: Regional Total	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
<i>-Valmy #2: Coal-</i>															
44 Idaho Power Company	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
45 Valmy #2: Regional Total	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
<i>-Total Large Thermal-</i>															
46 Federal System	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
47 Public Entities	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
48 Investor-Owned Entities	3628	3916	3916	3916	3916	3916	3916	3916	3833	3621	2842	3264	3696	3708	3750
49 Other Entities	1253	1253	1253	1253	1253	1253	1253	1253	1192	626	626	1071	1253	1253	1181
50 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Total Large Thermal	5945	6232	6232	6232	6232	6232	6232	6232	6089	5293	4503	5378	6013	6024	5991

Table A-10: Regional Large Thermal
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Boardman: Coal-															
1 Idaho Power Company	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
2 Portland General Electric	220	220	220	220	220	220	220	220	220	106	33	85	220	220	196
3 San Diego Gas & Electric	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
4 Turlock Irrigation District	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
5 Boardman: Regional Total	337	337	337	337	337	337	337	337	337	163	50	130	337	337	300
-Centralia #1: Coal-															
6 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
7 Centralia #1: Regional Total	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
-Centralia #2: Coal-															
8 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	566	0	0	445	626	626	554
9 Centralia #2: Regional Total	626	626	626	626	626	626	626	626	566	0	0	445	626	626	554
-Colstrip #1: Coal-															
10 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Puget Sound Energy	140	140	140	140	140	140	140	140	140	140	140	138	138	68	134
12 Colstrip #1: Regional Total	140	140	140	140	140	140	140	140	140	140	140	138	138	68	134
-Colstrip #2: Coal-															
13 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Puget Sound Energy	140	140	140	140	140	140	140	140	140	140	140	138	138	68	134
15 Colstrip #2: Regional Total	140	140	140	140	140	140	140	140	140	140	140	138	138	68	134
-Colstrip #3: Coal-															
16 Avista Corp (WWP Division)	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103
17 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Pacific Power	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
19 Portland General Electric	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
20 Puget Sound Energy	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
21 Colstrip #3: Regional Total	481	481	481	481	481	481	481	481	481	481	481	481	481	481	481
-Colstrip #4: Coal-															
22 Avista Corp (WWP Division)	106	106	106	106	106	106	106	106	106	106	106	102	106	106	106
23 Northwestern Energy LLC (MPC)	212	212	212	212	212	212	212	212	212	212	212	204	212	212	211
24 Pacific Power	71	71	71	71	71	71	71	71	71	71	71	68	71	71	70
25 Portland General Electric	141	141	141	141	141	141	141	141	141	141	141	136	141	141	141
26 Puget Sound Energy	177	177	177	177	177	177	177	177	177	177	177	170	177	177	176
27 Colstrip #4: Regional Total	707	707	707	707	707	707	707	707	707	707	707	679	707	707	705
-Columbia Generating Station: Uranium-															
28 BPA - Power Business	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	399	0	864	878
29 Columbia Generating Station: Regional Total	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	399	0	864	878
-Jim Bridger #1: Coal-															
30 Idaho Power Company	161	161	161	161	161	161	161	161	161	161	161	161	161	161	161
31 Pacific Power	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322
32 Jim Bridger #1: Regional Total	483	483	483	483	483	483	483	483	483	483	483	483	483	483	483
-Jim Bridger #2: Coal-															
33 Idaho Power Company	163	163	163	163	163	163	163	163	163	163	106	67	163	163	152
34 Pacific Power	325	325	325	325	325	325	325	325	325	325	211	134	325	325	304
35 Jim Bridger #2: Regional Total	488	488	488	488	488	488	488	488	488	488	317	200	488	488	457
-Jim Bridger #3: Coal-															
36 Idaho Power Company	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
37 Pacific Power	318	318	318	318	318	318	318	318	318	318	318	318	318	318	318
38 Jim Bridger #3: Regional Total	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477

Continued

Table A-10: Regional Large Thermal
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Jim Bridger #4: Coal-</i>															
39 Idaho Power Company	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154
40 Pacific Power	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307
41 Jim Bridger #4: Regional Total	461	461	461	461	461	461	461	461	461	461	461	461	461	461	461
<i>-Valmy #1: Coal-</i>															
42 Idaho Power Company	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
43 Valmy #1: Regional Total	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
<i>-Valmy #2: Coal-</i>															
44 Idaho Power Company	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
45 Valmy #2: Regional Total	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
<i>-Total Large Thermal-</i>															
46 Federal System	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	399	0	864	878
47 Public Entities	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
48 Investor-Owned Entities	3916	3916	3916	3916	3916	3916	3916	3916	3833	3760	3462	3409	3911	3771	3828
49 Other Entities	1253	1253	1253	1253	1253	1253	1253	1253	1192	626	626	1071	1253	1253	1181
50 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Total Large Thermal	6232	6232	6232	6232	6232	6232	6232	6232	6089	5432	5123	4893	5197	5921	5917

Table A-10: Regional Large Thermal
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Boardman: Coal-															
1 Idaho Power Company	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
2 Portland General Electric	220	220	220	220	220	220	220	220	220	106	33	85	220	220	196
3 San Diego Gas & Electric	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
4 Turlock Irrigation District	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
5 Boardman: Regional Total	337	337	337	337	337	337	337	337	337	163	50	130	337	337	300
-Centralia #1: Coal-															
6 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	40	626	626	577
7 Centralia #1: Regional Total	626	626	626	626	626	626	626	626	626	626	626	40	626	626	577
-Centralia #2: Coal-															
8 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
9 Centralia #2: Regional Total	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
-Colstrip #1: Coal-															
10 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Puget Sound Energy	70	140	140	140	140	140	140	140	140	140	140	140	140	93	134
12 Colstrip #1: Regional Total	70	140	140	140	140	140	140	140	140	140	140	140	140	93	134
-Colstrip #2: Coal-															
13 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Puget Sound Energy	70	140	140	140	140	140	140	140	140	140	140	140	140	93	134
15 Colstrip #2: Regional Total	70	140	140	140	140	140	140	140	140	140	140	140	140	93	134
-Colstrip #3: Coal-															
16 Avista Corp (WWP Division)	103	103	103	103	103	103	103	103	103	103	103	103	103	62	100
17 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Pacific Power	69	69	69	69	69	69	69	69	69	69	69	69	69	41	66
19 Portland General Electric	137	137	137	137	137	137	137	137	137	137	137	137	137	82	133
20 Puget Sound Energy	172	172	172	172	172	172	172	172	172	172	172	172	172	102	166
21 Colstrip #3: Regional Total	481	481	481	481	481	481	481	481	481	481	481	481	481	287	464
-Colstrip #4: Coal-															
22 Avista Corp (WWP Division)	106	106	106	106	106	106	106	106	92	0	0	75	106	106	94
23 Northwestern Energy LLC (MPC)	212	212	212	212	212	212	212	212	185	0	0	151	212	212	187
24 Pacific Power	71	71	71	71	71	71	71	71	62	0	0	50	71	71	62
25 Portland General Electric	141	141	141	141	141	141	141	141	123	0	0	100	141	141	125
26 Puget Sound Energy	177	177	177	177	177	177	177	177	154	0	0	126	177	177	156
27 Colstrip #4: Regional Total	707	707	707	707	707	707	707	707	616	0	0	502	707	707	624
-Columbia Generating Station: Uranium-															
28 BPA - Power Business	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
29 Columbia Generating Station: Regional Total	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
-Jim Bridger #1: Coal-															
30 Idaho Power Company	161	161	161	161	161	161	161	161	161	161	125	54	161	161	150
31 Pacific Power	322	322	322	322	322	322	322	322	322	322	249	107	322	322	301
32 Jim Bridger #1: Regional Total	483	483	483	483	483	483	483	483	483	483	374	161	483	483	451
-Jim Bridger #2: Coal-															
33 Idaho Power Company	163	163	163	163	163	163	163	163	163	163	163	163	163	163	163
34 Pacific Power	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
35 Jim Bridger #2: Regional Total	488	488	488	488	488	488	488	488	488	488	488	488	488	488	488
-Jim Bridger #3: Coal-															
36 Idaho Power Company	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
37 Pacific Power	318	318	318	318	318	318	318	318	318	318	318	318	318	318	318
38 Jim Bridger #3: Regional Total	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477

Continued

Table A-10: Regional Large Thermal
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Jim Bridger #4: Coal-</i>															
39 Idaho Power Company	154	154	154	154	154	154	154	154	154	110	0	154	154	154	146
40 Pacific Power	307	307	307	307	307	307	307	307	307	219	0	307	307	307	291
41 Jim Bridger #4: Regional Total	461	461	461	461	461	461	461	461	461	329	0	461	461	461	437
<i>-Valmy #1: Coal-</i>															
42 Idaho Power Company	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
43 Valmy #1: Regional Total	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
<i>-Valmy #2: Coal-</i>															
44 Idaho Power Company	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
45 Valmy #2: Regional Total	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
<i>-Total Large Thermal-</i>															
46 Federal System	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030
47 Public Entities	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
48 Investor-Owned Entities	3776	3916	3916	3916	3916	3916	3916	3916	3742	2920	2355	3203	3916	3627	3705
49 Other Entities	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	667	1253	1253	1203
50 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Total Large Thermal	6092	6232	6232	6232	6232	6232	6232	6232	6058	5219	4643	4913	6232	5944	5968

Table A-10: Regional Large Thermal
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Boardman: Coal-															
1 Idaho Power Company	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
2 Portland General Electric	220	220	220	220	220	220	220	220	220	106	33	85	220	220	196
3 San Diego Gas & Electric	50	50	50	50	50	50	50	50	50	24	7.4	19	50	50	44
4 Turlock Irrigation District	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
5 Boardman: Regional Total	337	337	337	337	337	337	337	337	337	163	50	130	337	337	300
-Centralia #1: Coal-															
6 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
7 Centralia #1: Regional Total	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
-Centralia #2: Coal-															
8 TransAlta Energy Marketing	626	626	626	626	626	626	626	626	626	626	626	40	626	626	577
9 Centralia #2: Regional Total	626	626	626	626	626	626	626	626	626	626	626	40	626	626	577
-Colstrip #1: Coal-															
10 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Puget Sound Energy	72	140	140	140	140	140	140	140	140	140	140	126	126	114	133
12 Colstrip #1: Regional Total	72	140	140	140	140	140	140	140	140	140	140	126	126	114	133
-Colstrip #2: Coal-															
13 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Puget Sound Energy	72	140	140	140	140	140	140	140	140	140	140	126	126	114	133
15 Colstrip #2: Regional Total	72	140	140	140	140	140	140	140	140	140	140	126	126	114	133
-Colstrip #3: Coal-															
16 Avista Corp (WWP Division)	70	103	103	103	103	103	103	103	103	103	103	62	62	70	92
17 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Pacific Power	47	69	69	69	69	69	69	69	69	69	69	41	41	47	61
19 Portland General Electric	94	137	137	137	137	137	137	137	137	137	137	83	83	93	123
20 Puget Sound Energy	118	172	172	172	172	172	172	172	172	172	172	103	103	117	153
21 Colstrip #3: Regional Total	329	481	481	481	481	481	481	481	481	481	481	289	289	327	430
-Colstrip #4: Coal-															
22 Avista Corp (WWP Division)	106	106	106	106	106	106	106	106	106	106	106	102	106	106	106
23 Northwestern Energy LLC (MPC)	212	212	212	212	212	212	212	212	212	212	212	204	212	212	211
24 Pacific Power	71	71	71	71	71	71	71	71	71	71	71	68	71	71	70
25 Portland General Electric	141	141	141	141	141	141	141	141	141	141	141	136	141	141	141
26 Puget Sound Energy	177	177	177	177	177	177	177	177	177	177	177	170	177	177	176
27 Colstrip #4: Regional Total	707	707	707	707	707	707	707	707	707	707	707	679	707	707	705
-Columbia Generating Station: Uranium-															
28 BPA - Power Business	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	332	0	930	878
29 Columbia Generating Station: Regional Total	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	332	0	930	878
-Jim Bridger #1: Coal-															
30 Idaho Power Company	161	161	161	161	161	161	161	161	161	161	129	161	161	161	160
31 Pacific Power	322	322	322	322	322	322	322	322	322	322	257	322	322	322	319
32 Jim Bridger #1: Regional Total	483	483	483	483	483	483	483	483	483	483	386	483	483	483	479
-Jim Bridger #2: Coal-															
33 Idaho Power Company	163	163	163	163	163	163	163	163	135	127	0	163	163	163	152
34 Pacific Power	325	325	325	325	325	325	325	325	271	254	0	325	325	325	304
35 Jim Bridger #2: Regional Total	488	488	488	488	488	488	488	488	406	382	0	488	488	488	457
-Jim Bridger #3: Coal-															
36 Idaho Power Company	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
37 Pacific Power	318	318	318	318	318	318	318	318	318	318	318	318	318	318	318
38 Jim Bridger #3: Regional Total	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477

Continued

Table A-10: Regional Large Thermal
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Jim Bridger #4: Coal-</i>															
39 Idaho Power Company	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154
40 Pacific Power	307	307	307	307	307	307	307	307	307	307	307	307	307	307	307
41 Jim Bridger #4: Regional Total	461	461	461	461	461	461	461	461	461	461	461	461	461	461	461
<i>-Valmy #1: Coal-</i>															
42 Idaho Power Company	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
43 Valmy #1: Regional Total	114	114	114	114	114	114	114	114	74	114	102	114	114	114	110
<i>-Valmy #2: Coal-</i>															
44 Idaho Power Company	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
45 Valmy #2: Regional Total	120	120	120	120	120	120	120	120	78	120	107	120	120	120	116
<i>-Total Large Thermal-</i>															
46 Federal System	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	1030	332	0	930	878
47 Public Entities	34	34	34	34	34	34	34	34	34	16	5	13	34	34	30
48 Investor-Owned Entities	3628	3916	3916	3916	3916	3916	3916	3916	3752	3653	3048	3482	3696	3708	3771
49 Other Entities	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	667	1253	1253	1203
50 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Total Large Thermal	5945	6232	6232	6232	6232	6232	6232	6232	6068	5952	5335	4494	4983	5924	5882

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Table A-15
Canadian Entitlement Return for Canada
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-15: Canadian Entitlement Return For Canada
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-BPA Canada-</i>															
1 BPA: Regional Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Priest Rapids CER for Canada-</i>															
2 AVWP to BPA	1.0	1.0	1.0	1.0	1.6	1.6	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2
3 COPD to BPA	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4 EWEB to BPA	0	0	0	0	0.2	0.2	0	0	0	0	0	0	0	0	0.1
5 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6 GCPD to BPA	18	18	18	18	14	14	18	18	18	19	19	19	19	19	18
7 KITT to BPA	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0.1
8 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10 PGE to BPA	1.9	1.9	1.9	1.9	3.4	3.4	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.6
11 PNWMktr to BPA	6.7	6.7	6.7	6.7	6.2	6.2	6.0	6.0	6.0	6.2	6.2	6.2	6.2	6.2	6.3
12 PPL to BPA	0.3	0.3	0.3	0.3	1.4	1.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
13 PSE to BPA	0.2	0.2	0.2	0.2	0.8	0.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
14 SCL to BPA	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15 TPU to BPA	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
16 Priest Rapids: Regional Totals	29	29	29	29	29	29	29	29	29	30	30	30	30	30	30
<i>-Wanapum CER for Canada-</i>															
17 AVWP to BPA	2.3	2.3	2.3	2.3	1.5	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.5
18 COPD to BPA	0.8	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6
19 EWEB to BPA	0.6	0.6	0.6	0.6	0.2	0.2	0	0	0	0	0	0	0	0	0.2
20 FGRV to BPA	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 GCPD to BPA	10	10	10	10	14	14	17	17	17	18	18	18	18	18	15
22 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 MCMN to BPA	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
24 MTRF to BPA	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25 PGE to BPA	5.3	5.3	5.3	5.3	3.3	3.3	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	3.3
26 PNWMktr to BPA	0	0	0	0	5.9	5.9	5.7	5.7	5.7	5.9	5.9	5.9	5.9	5.9	4.4
27 PPL to BPA	5.3	5.3	5.3	5.3	1.3	1.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.7
28 PSE to BPA	3	3	3	3	0.8	0.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1
29 SCL to BPA	0	0	0	0	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30 TPU to BPA	0	0	0	0	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31 Wanapum: Regional Totals	28	28	28	28	28	28	28	28	28	29	29	29	29	29	29
<i>-Rock Island P.H. #1 CER for Canada-</i>															
32 APGI to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 CHPD to BPA	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.5
34 PSE to BPA	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.5
35 Rock Island P.H. #1: Regional Totals	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
<i>-Rock Island P.H. #2 CER for Canada-</i>															
36 APGI to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 CHPD to BPA	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.6	3.6	3.6	3.6	3.6	3.5
38 PSE to BPA	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.6	3.6	3.6	3.6	3.6	3.5
39 Rock Island P.H. #2: Regional Totals	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.2	7.2	7.2	7.2	7.2	7.1
<i>-Rocky Reach CER for Canada-</i>															
40 APGI to BPA	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.8	8.8	8.8	8.8	8.8	8.6
41 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
42 CHPD to BPA	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.8	5.8	5.8	5.8	5.8	5.7
43 DOPD to BPA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
44 PGE to BPA	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.6	4.6	4.6	4.6	4.6	4.5
45 PPL to BPA	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2	2	2	2	2	2.0
46 PSE to BPA	14	14	14	14	14	14	14	14	14	15	15	15	15	15	15
47 Rocky Reach: Regional Totals	37	37	37	37	37	37	37	37	37	38	38	38	38	38	38
<i>-Wells CER for Canada-</i>															
48 AVWP to BPA	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Table A-15: Canadian Entitlement Return For Canada
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
49 COLV to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
50 DOPD to BPA	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	7.1	7.1	7.1	7.1	7.1	6.9
51 OKPD to BPA	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9
52 PGE to BPA	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.8	4.8	4.8	4.8	4.8	4.7
53 PPL to BPA	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
54 PSE to BPA	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.4	7.4	7.4	7.4	7.4	7.2
55 Wells: Regional Totals	24	24	24	24	24	24	24	24	24	25	25	25	25	25	24
-Total CER For Canada-															
56 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Public Entities	57	57	57	57	57	57	63	63	63	65	65	65	65	65	61
58 Investor-Owned Entities	64	64	64	64	59	59	53	53	53	55	55	55	55	55	58
59 Other Entities	15	15	15	15	21	21	20	20	20	21	21	21	21	21	19
60 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 Total CER For Canada	137	137	137	137	137	137	137	137	137	141	141	141	141	141	138

Table A-15: Canadian Entitlement Return For Canada
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-BPA Canada-</i>															
1 BPA: Regional Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Priest Rapids CER for Canada-</i>															
2 AVWP to BPA	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1
3 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6 GCPD to BPA	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
7 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10 PGE to BPA	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
11 PNWMtr to BPA	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.1	6.1	6.1	6.1	6.1	6.1
12 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
13 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
16 Priest Rapids: Regional Totals	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
<i>-Wanapum CER for Canada-</i>															
17 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
18 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
19 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 GCPD to BPA	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
22 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
24 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25 PGE to BPA	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
26 PNWMtr to BPA	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.8	5.8	5.8	5.8	5.8	5.9
27 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
28 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
29 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31 Wanapum: Regional Totals	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
<i>-Rock Island P.H. #1 CER for Canada-</i>															
32 APGI to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 CHPD to BPA	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
34 PSE to BPA	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
35 Rock Island P.H. #1: Regional Totals	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
<i>-Rock Island P.H. #2 CER for Canada-</i>															
36 APGI to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 CHPD to BPA	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
38 PSE to BPA	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
39 Rock Island P.H. #2: Regional Totals	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.1	7.1	7.1	7.1	7.2
<i>-Rocky Reach CER for Canada-</i>															
40 APGI to BPA	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.7	8.7	8.7	8.7	8.7	8.8
41 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
42 CHPD to BPA	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	5.7	5.7	5.7	5.7	5.8
43 DOPD to BPA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
44 PGE to BPA	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
45 PPL to BPA	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
46 PSE to BPA	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
47 Rocky Reach: Regional Totals	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
<i>-Wells CER for Canada-</i>															
48 AVWP to BPA	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Table A-15: Canadian Entitlement Return For Canada
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
49 COLV to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
50 DOPD to BPA	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.0	7.0	7.0	7.0	7.0	7
51 OKPD to BPA	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
52 PGE to BPA	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.7	4.7	4.7	4.7	4.8
53 PPL to BPA	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
54 PSE to BPA	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.3	7.3	7.3	7.3	7.3	7.4
55 Wells: Regional Totals	25	25	25	25	25	25	25	25	25	24	24	24	24	24	25
<i>-Total CER For Canada-</i>															
56 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Public Entities	65	65	65	65	65	65	65	65	65	64	64	64	64	64	65
58 Investor-Owned Entities	55	55	55	55	55	55	55	55	55	54	54	54	54	54	55
59 Other Entities	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
60 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 Total CER For Canada	141	141	141	141	141	141	141	141	141	139	139	139	139	139	140

Table A-15: Canadian Entitlement Return For Canada
PNW Loads and Resource Study
2011 - 2012 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-BPA Canada-</i>															
1 BPA: Regional Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Priest Rapids CER for Canada-</i>															
2 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
3 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6 GCPD to BPA	19	19	19	19	19	19	19	19	19	18	18	18	18	18	18
7 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10 PGE to BPA	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
11 PNWMtr to BPA	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6	6	6	6	6	6.1
12 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
13 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
16 Priest Rapids: Regional Totals	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
<i>-Wanapum CER for Canada-</i>															
17 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
18 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
19 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 GCPD to BPA	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
22 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
24 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25 PGE to BPA	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.5
26 PNWMtr to BPA	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
27 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
28 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
29 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31 Wanapum: Regional Totals	29	29	29	29	29	29	29	29	29	28	28	28	28	28	29
<i>-Rock Island P.H. #1 CER for Canada-</i>															
32 APGI to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	2.9	0.2
33 CHPD to BPA	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.5	5.5	5.5	5.4	5.5
34 PSE to BPA	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.5	5.5	5.5	2.8	5.3
35 Rock Island P.H. #1: Regional Totals	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
<i>-Rock Island P.H. #2 CER for Canada-</i>															
36 APGI to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	1.8	0.2
37 CHPD to BPA	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.5	3.5	3.5	3.4	3.5
38 PSE to BPA	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.5	3.5	3.5	1.8	3.4
39 Rock Island P.H. #2: Regional Totals	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7	7	7	7	7	7.1
<i>-Rocky Reach CER for Canada-</i>															
40 APGI to BPA	8.7	8.7	8.7	8.7	10	10	10	10	10	10	10	10	10	9.7	9.9
41 AVWP to BPA	1.1	1.1	1.1	1.1	0	0	0	0	0	0	0	0	0	0	0.3
42 CHPD to BPA	5.7	5.7	5.7	5.7	16	16	16	16	16	16	16	16	16	16	13
43 DOPD to BPA	1	1	1	1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.8
44 PGE to BPA	4.6	4.6	4.6	4.6	0	0	0	0	0	0	0	0	0	0	1.1
45 PPL to BPA	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0.5
46 PSE to BPA	15	15	15	15	9.5	9.5	9.5	9.5	9.5	9.4	9.4	9.4	9.4	9.4	11
47 Rocky Reach: Regional Totals	38	38	38	38	38	38	38	38	38	37	37	37	37	37	38
<i>-Wells CER for Canada-</i>															
48 AVWP to BPA	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Table A-15: Canadian Entitlement Return For Canada
 PNW Loads and Resource Study
 2011 - 2012 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
49 COLV to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
50 DOPD to BPA	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.9	6.9	6.9	6.9	7.0
51 OKPD to BPA	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9
52 PGE to BPA	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
53 PPL to BPA	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
54 PSE to BPA	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.2	7.2	7.2	7.2	7.2	7.3
55 Wells: Regional Totals	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
-Total CER For Canada-															
56 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Public Entities	64	64	64	64	76	76	76	76	76	75	75	75	75	75	72
58 Investor-Owned Entities	54	54	54	54	41	41	41	41	41	41	41	41	41	36	44
59 Other Entities	21	21	21	21	22	22	22	22	22	22	22	22	22	26	22
60 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 Total CER For Canada	139	139	139	139	139	139	139	139	139	138	138	138	138	138	139

Table A-15: Canadian Entitlement Return For Canada
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-BPA Canada-</i>															
1 BPA: Regional Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Priest Rapids CER for Canada-</i>															
2 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
3 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6 GCPD to BPA	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
7 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10 PGE to BPA	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.6
11 PNWMtr to BPA	6	6	6	6	6	6	6	6	6	6.0	6.0	6.0	6.0	6.0	6.0
12 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
13 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
16 Priest Rapids: Regional Totals	30	30	30	30	30	30	30	30	30	29	29	29	29	29	30
<i>-Wanapum CER for Canada-</i>															
17 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
18 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
19 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 GCPD to BPA	18	18	18	18	18	18	18	18	18	17	17	17	17	17	17
22 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
24 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25 PGE to BPA	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
26 PNWMtr to BPA	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	5.7	5.7	5.7	5.7	5.7
27 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
28 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
29 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31 Wanapum: Regional Totals	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
<i>-Rock Island P.H. #1 CER for Canada-</i>															
32 APGI to BPA	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.9
33 CHPD to BPA	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.3	5.3	5.3	5.3	5.4
34 PSE to BPA	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7
35 Rock Island P.H. #1: Regional Totals	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
<i>-Rock Island P.H. #2 CER for Canada-</i>															
36 APGI to BPA	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
37 CHPD to BPA	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
38 PSE to BPA	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7
39 Rock Island P.H. #2: Regional Totals	7	7	7	7	7	7	7	7	7	6.9	6.9	6.9	6.9	6.9	7.0
<i>-Rocky Reach CER for Canada-</i>															
40 APGI to BPA	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.6	9.6	9.6	9.6	9.6	9.7
41 AVWP to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 CHPD to BPA	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
43 DOPD to BPA	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2	2	2	2	2	2.1
44 PGE to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 PPL to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 PSE to BPA	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.3	9.3	9.3	9.3	9.3	9.3
47 Rocky Reach: Regional Totals	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
<i>-Wells CER for Canada-</i>															
48 AVWP to BPA	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Table A-15: Canadian Entitlement Return For Canada
 PNW Loads and Resource Study
 2012 - 2013 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
49 COLV to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
50 DOPD to BPA	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.8	6.8	6.8	6.8	6.9
51 OKPD to BPA	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
52 PGE to BPA	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.6	4.6	4.6	4.6	4.7
53 PPL to BPA	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
54 PSE to BPA	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.1	7.1	7.1	7.1	7.2
55 Wells: Regional Totals	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
<i>-Total CER For Canada-</i>															
56 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Public Entities	75	75	75	75	75	75	75	75	75	74	74	74	74	74	75
58 Investor-Owned Entities	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
59 Other Entities	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
60 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 Total CER For Canada	138	138	138	138	138	138	138	138	138	136	136	136	136	136	137

Table A-15: Canadian Entitlement Return For Canada
PNW Loads and Resource Study
2013 - 2014 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-BPA Canada-</i>															
1 BPA: Regional Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Priest Rapids CER for Canada-</i>															
2 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
3 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6 GCPD to BPA	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
7 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10 PGE to BPA	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
11 PNWMtr to BPA	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9
12 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
13 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
16 Priest Rapids: Regional Totals	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
<i>-Wanapum CER for Canada-</i>															
17 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
18 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
19 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 GCPD to BPA	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
22 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
24 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25 PGE to BPA	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
26 PNWMtr to BPA	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.6	5.6	5.6	5.6	5.7
27 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
28 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
29 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31 Wanapum: Regional Totals	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
<i>-Rock Island P.H. #1 CER for Canada-</i>															
32 APGI to BPA	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
33 CHPD to BPA	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
34 PSE to BPA	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
35 Rock Island P.H. #1: Regional Totals	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
<i>-Rock Island P.H. #2 CER for Canada-</i>															
36 APGI to BPA	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
37 CHPD to BPA	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
38 PSE to BPA	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
39 Rock Island P.H. #2: Regional Totals	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
<i>-Rocky Reach CER for Canada-</i>															
40 APGI to BPA	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.5	9.5	9.5	9.5	9.5	9.6
41 AVWP to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 CHPD to BPA	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
43 DOPD to BPA	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
44 PGE to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 PPL to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 PSE to BPA	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.2	9.2	9.2	9.2	9.2	9.2
47 Rocky Reach: Regional Totals	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
<i>-Wells CER for Canada-</i>															
48 AVWP to BPA	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Table A-15: Canadian Entitlement Return For Canada
 PNW Loads and Resource Study
 2013 - 2014 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
49 COLV to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
50 DOPD to BPA	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
51 OKPD to BPA	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
52 PGE to BPA	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
53 PPL to BPA	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
54 PSE to BPA	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
55 Wells: Regional Totals	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
-Total CER For Canada-															
56 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Public Entities	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
58 Investor-Owned Entities	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
59 Other Entities	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
60 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 Total CER For Canada	136	136	136	136	136	136	136	136	136	135	135	135	135	135	136

Table A-15: Canadian Entitlement Return For Canada
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-BPA Canada-</i>															
1 BPA: Regional Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Priest Rapids CER for Canada-</i>															
2 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
3 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6 GCPD to BPA	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
7 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10 PGE to BPA	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
11 PNWMtr to BPA	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.8	5.8	5.8	5.8	5.8	5.9
12 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
13 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
16 Priest Rapids: Regional Totals	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
<i>-Wanapum CER for Canada-</i>															
17 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1	1	1	1	1	1
18 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
19 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 GCPD to BPA	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
22 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
24 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25 PGE to BPA	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
26 PNWMtr to BPA	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
27 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
28 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
29 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31 Wanapum: Regional Totals	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
<i>-Rock Island P.H. #1 CER for Canada-</i>															
32 APGI to BPA	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
33 CHPD to BPA	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2	5.2	5.2	5.2	5.3
34 PSE to BPA	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
35 Rock Island P.H. #1: Regional Totals	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
<i>-Rock Island P.H. #2 CER for Canada-</i>															
36 APGI to BPA	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
37 CHPD to BPA	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.3	3.3	3.3	3.3	3.3
38 PSE to BPA	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
39 Rock Island P.H. #2: Regional Totals	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.8	6.8	6.8	6.8	6.8
<i>-Rocky Reach CER for Canada-</i>															
40 APGI to BPA	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.4	9.4	9.4	9.4	9.4	9.5
41 AVWP to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 CHPD to BPA	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
43 DOPD to BPA	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
44 PGE to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 PPL to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 PSE to BPA	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	9.1	9.1	9.1	9.1	9.1
47 Rocky Reach: Regional Totals	37	37	37	37	37	37	37	37	37	36	36	36	36	36	36
<i>-Wells CER for Canada-</i>															
48 AVWP to BPA	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Table A-15: Canadian Entitlement Return For Canada
 PNW Loads and Resource Study
 2014 - 2015 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
49 COLV to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
50 DOPD to BPA	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.7	6.7	6.7	6.7	6.7
51 OKPD to BPA	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
52 PGE to BPA	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.5	4.5	4.5	4.5	4.6
53 PPL to BPA	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.6
54 PSE to BPA	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.0	7.0	7.0	7.0	7.0	7
55 Wells: Regional Totals	24	24	24	24	24	24	24	24	24	23	23	23	23	23	24
<i>-Total CER For Canada-</i>															
56 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Public Entities	74	74	74	74	74	74	74	74	74	73	73	73	73	73	73
58 Investor-Owned Entities	36	36	36	36	36	36	36	36	36	35	35	35	35	35	35
59 Other Entities	26	26	26	26	26	26	26	26	26	25	25	25	25	25	26
60 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 Total CER For Canada	135	135	135	135	135	135	135	135	135	133	133	133	133	133	134

Table A-15: Canadian Entitlement Return For Canada
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-BPA Canada-</i>															
1 BPA: Regional Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Priest Rapids CER for Canada-</i>															
2 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
3 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6 GCPD to BPA	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
7 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10 PGE to BPA	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.5
11 PNWMtr to BPA	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
12 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
13 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
16 Priest Rapids: Regional Totals	29	29	29	29	29	29	29	29	29	28	28	28	28	28	29
<i>-Wanapum CER for Canada-</i>															
17 AVWP to BPA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
19 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 GCPD to BPA	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
22 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
24 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25 PGE to BPA	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.4
26 PNWMtr to BPA	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.5	5.5	5.5	5.5	5.6
27 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
28 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
29 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31 Wanapum: Regional Totals	28	28	28	28	28	28	28	28	28	27	27	27	27	27	27
<i>-Rock Island P.H. #1 CER for Canada-</i>															
32 APGI to BPA	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7
33 CHPD to BPA	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	5.1	5.1	5.1	5.1	5.2
34 PSE to BPA	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.6
35 Rock Island P.H. #1: Regional Totals	11	11	11	11	11	11	11	11	11	10	10	10	10	10	11
<i>-Rock Island P.H. #2 CER for Canada-</i>															
36 APGI to BPA	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
37 CHPD to BPA	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
38 PSE to BPA	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
39 Rock Island P.H. #2: Regional Totals	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.7	6.7	6.7	6.7	6.8
<i>-Rocky Reach CER for Canada-</i>															
40 APGI to BPA	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.3	9.3	9.3	9.3	9.3	9.4
41 AVWP to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 CHPD to BPA	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
43 DOPD to BPA	2	2	2	2	2	2	2	2	2	2.0	2.0	2.0	2.0	2.0	2.0
44 PGE to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 PPL to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 PSE to BPA	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.0	9.0	9.0	9.0	9.0	9
47 Rocky Reach: Regional Totals	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
<i>-Wells CER for Canada-</i>															
48 AVWP to BPA	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Table A-15: Canadian Entitlement Return For Canada
 PNW Loads and Resource Study
 2015 - 2016 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
49 COLV to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1	1	1	1	1	1
50 DOPD to BPA	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.6	6.6	6.6	6.6	6.7
51 OKPD to BPA	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
52 PGE to BPA	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
53 PPL to BPA	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
54 PSE to BPA	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.9	6.9	6.9	6.9	7.0
55 Wells: Regional Totals	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
-Total CER For Canada-															
56 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Public Entities	73	73	73	73	73	73	73	73	73	72	72	72	72	72	72
58 Investor-Owned Entities	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
59 Other Entities	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
60 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 Total CER For Canada	133	133	133	133	133	133	133	133	133	132	132	132	132	132	133

Table A-15: Canadian Entitlement Return For Canada
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-BPA Canada-</i>															
1 BPA: Regional Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Priest Rapids CER for Canada-</i>															
2 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
3 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6 GCPD to BPA	18	18	18	18	18	18	18	18	18	17	17	17	17	17	17
7 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10 PGE to BPA	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
11 PNWMtr to BPA	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	5.7	5.7	5.7	5.7	5.7
12 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
13 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
16 Priest Rapids: Regional Totals	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
<i>-Wanapum CER for Canada-</i>															
17 AVWP to BPA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
19 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 GCPD to BPA	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
22 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
24 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25 PGE to BPA	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
26 PNWMtr to BPA	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.4	5.4	5.4	5.4	5.4	5.5
27 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
28 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
29 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31 Wanapum: Regional Totals	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
<i>-Rock Island P.H. #1 CER for Canada-</i>															
32 APGI to BPA	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
33 CHPD to BPA	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
34 PSE to BPA	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
35 Rock Island P.H. #1: Regional Totals	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
<i>-Rock Island P.H. #2 CER for Canada-</i>															
36 APGI to BPA	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7
37 CHPD to BPA	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2	3.2	3.2	3.3
38 PSE to BPA	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
39 Rock Island P.H. #2: Regional Totals	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.6	6.6	6.6	6.6	6.7
<i>-Rocky Reach CER for Canada-</i>															
40 APGI to BPA	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.2	9.2	9.2	9.2	9.2	9.3
41 AVWP to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 CHPD to BPA	16	16	16	16	16	16	16	16	16	15	15	15	15	15	15
43 DOPD to BPA	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
44 PGE to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 PPL to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 PSE to BPA	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.8	8.8	8.8	8.8	8.8	8.9
47 Rocky Reach: Regional Totals	36	36	36	36	36	36	36	36	36	35	35	35	35	35	36
<i>-Wells CER for Canada-</i>															
48 AVWP to BPA	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Table A-15: Canadian Entitlement Return For Canada
 PNW Loads and Resource Study
 2016 - 2017 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
49 COLV to BPA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
50 DOPD to BPA	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.5	6.5	6.5	6.5	6.5	6.6
51 OKPD to BPA	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.8
52 PGE to BPA	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	4.4	4.4	4.4	4.5
53 PPL to BPA	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
54 PSE to BPA	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.8	6.8	6.8	6.8	6.9
55 Wells: Regional Totals	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
<i>-Total CER For Canada-</i>															
56 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Public Entities	72	72	72	72	72	72	72	72	72	71	71	71	71	71	72
58 Investor-Owned Entities	35	35	35	35	35	35	35	35	35	34	34	34	34	34	35
59 Other Entities	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
60 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 Total CER For Canada	132	132	132	132	132	132	132	132	132	130	130	130	130	130	131

Table A-15: Canadian Entitlement Return For Canada
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-BPA Canada-</i>															
1 BPA: Regional Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Priest Rapids CER for Canada-</i>															
2 AVWP to BPA	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1	1	1	1	1	1.1
3 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6 GCPD to BPA	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
7 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10 PGE to BPA	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
11 PNWMtr to BPA	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.6	5.6	5.6	5.6	5.7
12 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
13 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
16 Priest Rapids: Regional Totals	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
<i>-Wanapum CER for Canada-</i>															
17 AVWP to BPA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
19 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 GCPD to BPA	17	17	17	17	17	17	17	17	17	16	16	16	16	16	16
22 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
24 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25 PGE to BPA	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
26 PNWMtr to BPA	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
27 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
28 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
29 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31 Wanapum: Regional Totals	27	27	27	27	27	27	27	27	27	26	26	26	26	26	27
<i>-Rock Island P.H. #1 CER for Canada-</i>															
32 APGI to BPA	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
33 CHPD to BPA	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.0	5.1
34 PSE to BPA	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
35 Rock Island P.H. #1: Regional Totals	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
<i>-Rock Island P.H. #2 CER for Canada-</i>															
36 APGI to BPA	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
37 CHPD to BPA	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
38 PSE to BPA	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.7
39 Rock Island P.H. #2: Regional Totals	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
<i>-Rocky Reach CER for Canada-</i>															
40 APGI to BPA	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	9.1	9.1	9.1	9.1	9.1
41 AVWP to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 CHPD to BPA	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
43 DOPD to BPA	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9
44 PGE to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 PPL to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 PSE to BPA	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.7	8.7	8.7	8.7	8.7	8.8
47 Rocky Reach: Regional Totals	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
<i>-Wells CER for Canada-</i>															
48 AVWP to BPA	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Table A-15: Canadian Entitlement Return For Canada
 PNW Loads and Resource Study
 2017 - 2018 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
49 COLV to BPA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
50 DOPD to BPA	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.5
51 OKPD to BPA	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
52 PGE to BPA	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
53 PPL to BPA	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
54 PSE to BPA	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.7	6.7	6.7	6.7	6.8
55 Wells: Regional Totals	23	23	23	23	23	23	23	23	23	22	22	22	22	22	23
-Total CER For Canada-															
56 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Public Entities	71	71	71	71	71	71	71	71	71	70	70	70	70	70	71
58 Investor-Owned Entities	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
59 Other Entities	25	25	25	25	25	25	25	25	25	24	24	24	24	24	25
60 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 Total CER For Canada	130	130	130	130	130	130	130	130	130	128	128	128	128	128	129

Table A-15: Canadian Entitlement Return For Canada
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-BPA Canada-</i>															
1 BPA: Regional Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Priest Rapids CER for Canada-</i>															
2 AVWP to BPA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6 GCPD to BPA	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
7 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10 PGE to BPA	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
11 PNWMtr to BPA	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
12 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
13 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
16 Priest Rapids: Regional Totals	28	28	28	28	28	28	28	28	28	27	27	27	27	27	28
<i>-Wanapum CER for Canada-</i>															
17 AVWP to BPA	1	1	1	1	1	1	1	1	1	1.0	1.0	1.0	1.0	1.0	1.0
18 COPD to BPA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
19 EWEB to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 FGRV to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 GCPD to BPA	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
22 KITT to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 MCMN to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
24 MTRF to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25 PGE to BPA	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.3
26 PNWMtr to BPA	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.3	5.3	5.3	5.3	5.3
27 PPL to BPA	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
28 PSE to BPA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
29 SCL to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30 TPU to BPA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31 Wanapum: Regional Totals	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
<i>-Rock Island P.H. #1 CER for Canada-</i>															
32 APGI to BPA	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.6
33 CHPD to BPA	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.9	4.9	4.9	4.9	5.0
34 PSE to BPA	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5
35 Rock Island P.H. #1: Regional Totals	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
<i>-Rock Island P.H. #2 CER for Canada-</i>															
36 APGI to BPA	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
37 CHPD to BPA	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
38 PSE to BPA	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
39 Rock Island P.H. #2: Regional Totals	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.5	6.5	6.5	6.5	6.5	6.5
<i>-Rocky Reach CER for Canada-</i>															
40 APGI to BPA	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	8.9	8.9	8.9	8.9	8.9	9
41 AVWP to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 CHPD to BPA	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
43 DOPD to BPA	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
44 PGE to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 PPL to BPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 PSE to BPA	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.6	8.6	8.6	8.6	8.6	8.7
47 Rocky Reach: Regional Totals	35	35	35	35	35	35	35	35	35	34	34	34	34	34	35
<i>-Wells CER for Canada-</i>															
48 AVWP to BPA	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7

Table A-15: Canadian Entitlement Return For Canada
 PNW Loads and Resource Study
 2018 - 2019 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
49 COLV to BPA	1	1	1	1	1	1	1	1	1	1.0	1.0	1.0	1.0	1.0	1
50 DOPD to BPA	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
51 OKPD to BPA	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
52 PGE to BPA	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.3	4.3	4.3	4.3	4.3
53 PPL to BPA	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
54 PSE to BPA	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.6	6.6	6.6	6.6	6.7
55 Wells: Regional Totals	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
-Total CER For Canada-															
56 Federal System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Public Entities	70	70	70	70	70	70	70	70	70	69	69	69	69	69	70
58 Investor-Owned Entities	34	34	34	34	34	34	34	34	34	33	33	33	33	33	34
59 Other Entities	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
60 Non-NW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 Total CER For Canada	128	128	128	128	128	128	128	128	128	127	127	127	127	127	128

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Table A-16
Intra-Regional Transfers
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-16: Regional Intra-Regional Transfers
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Intra-Regional Transfers-</i>															
1 APGI To PPL C/N/X	24	24	23	23	24	23	24	24	23	23	23	24	23	23	24
2 AVWP To BPA WP3Set	0	0	55	55	58	55	58	56	55	55	55	0	55	0	42
3 AVWP To PGE CapS	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
4 BPA To AVWP WP3Set	0	0	0	0	101	101	101	101	50	50	50	0	0	0	42
5 BPA To CCPD SFIBlk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 BPA To Other Entities	321	313	111	0	0	0	0	0	0	0	0	230	0	0	56
7 BPA To PPL PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
8 BPA To PPL CapS	184	184	194	183	229	187	211	199	177	173	173	167	174	159	186
9 BPA To PPL S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	0	35	34	5.7
10 BPA To PPL S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 BPA To PSE WP3Set	0	0	0	0	101	101	101	101	50	50	50	0	0	0	42
12 BPA To PSE PwrS	0	0	0	0	2.4	2.4	2.4	0	0	0	0	0	0	0	0.6
13 CCPD To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 CHPD To PGE S/N/X	18	18	18	8.7	0	0	0	0	0	0	0	0	18	18	6.7
15 CIDF To UPL PwrS	15	15	0.3	0	0	0	0	0	0	0	0	12	19	20	5.5
16 DOPD To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 EWEB To PGE CapS	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
18 GCPD To AVWP PwrS	20	20	19	19	19	19	17	17	18	26	26	32	31	27	22
19 GCPD To EWEB PwrS	5.5	5.5	5.3	5.3	5.4	5.4	4.9	4.9	4.9	7.3	7.3	8.9	8.8	7.7	6.2
20 GCPD To FGRV PwrS	2	2	2	2	1	1	1	1	1	2	2	2	2	2	1.6
21 GCPD To FREC PwrS	1	1	1	0	1	1	0	0	0	1	1	1	1	1	0.7
22 GCPD To KITT PwrS	1	1	1	1	1	1	0	0	0	1	1	1	1	1	0.8
23 GCPD To KOOT PwrS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24 GCPD To LVE PwrS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25 GCPD To LVE PwrS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 GCPD To MCMN PwrS	2	2	2	2	1	1	1	1	1	2	2	2	2	2	1.6
27 GCPD To MTRF PwrS	2	2	2	2	1	1	1	1	1	2	2	2	2	2	1.6
28 GCPD To PGE PwrS	45	45	43	43	44	44	40	40	40	59	59	72	72	62	50
29 GCPD To PPL PwrS	45	45	43	43	44	44	40	40	40	59	59	72	72	62	50
30 GCPD To PPL PwrS	13	13	9.9	7.9	6.6	8.2	8.6	7.2	7.8	10	10	13	14	14	10.0
31 GCPD To PSE PwrS	26	26	25	25	25	25	23	23	23	34	34	42	41	36	29
32 GCPD To TPU PwrS	21	21	20	20	11	11	9.7	9.8	9.8	15	15	18	18	15	15
33 GHPD To GHP PwrS	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
34 NWCP To PSE PwrS	2.4	2.4	4.7	4.9	4.9	4.5	3.7	3.4	4.8	2.3	2.3	4.4	4.3	4.7	4.1
35 NWE To MVP PwrS	11	11	11	11	7.5	7.5	7.5	7.5	7.5	11	11	11	11	11	9.7
36 NWE To PSE PwrS	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83
37 Other Entities To AVWP	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
38 Other Entities To BPA	582	596	341	82	251	254	199	213	215	216	217	53	60	55	211
39 Other Entities To DOPD	19	19	19	29	28	31	29	27	29	19	19	19	19	19	24
40 Other Entities To PGE	131	131	131	132	130	131	117	117	117	117	117	117	117	117	123
41 PGE To AVWP PkRepl	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
42 PGE To CHPD S/N/X	10	10	17	8.7	10	11	10	10	0	0	0	0	10	10	8.1
43 PGE To EWEB PkRepl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
44 PGE To PPL Cove Repl	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
45 PPL To APGI C/N/X	24	24	23	23	24	23	24	24	23	23	23	24	23	23	24
46 PPL To APGI C/N/X	0	0	27	27	27	0	0	0	0	0	0	0	0	0	6.7
47 PPL To BPA S/Pwr/X	0	0	23	23	23	0	0	0	0	0	0	0	0	0	5.7
48 PPL To BPA S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 PPL To BPA PkRepl	184	184	194	183	229	187	211	199	177	173	173	167	174	159	186
50 PSE To BPA WP3Set	0	0	55	55	58	55	58	56	55	55	55	0	55	0	42
51 SCL To POPD PwrS	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
52 SHPD To PSE PwrS	8	8	8	8	8	8	8	8	0	0	0	0	0	0	4.6
53 SPN To PGE PwrS	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
54 TAUC To AVWP PwrS	188	188	188	188	188	188	188	188	179	94	94	161	188	188	177
55 Total Contracts	2424	2418	2119	1799	2312	2250	2219	2177	1996	1938	1911	1750	1751	1590	2025
<i>-Total Contracts Out-</i>															
56 Federal System	583	562	364	328	639	670	693	657	523	488	459	451	266	266	491
57 Public Entities	303	303	279	261	244	246	229	228	222	291	291	354	380	349	282
58 Investor-Owned Entities	836	840	1002	870	961	856	880	869	825	744	745	674	833	704	837
59 Other Entities	703	712	474	339	468	479	417	423	427	416	416	272	271	271	414
60 Total Contracts Out	2424	2418	2119	1799	2312	2250	2219	2177	1996	1938	1911	1750	1751	1590	2025

Continued

Table A-16: Regional Intra-Regional Transfers
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Total Contracts In-</i>															
61 Federal System	777	792	679	408	626	559	533	532	509	511	512	231	356	225	495
62 Public Entities	315	315	117	117	107	110	105	103	94	96	96	331	111	108	143
63 Investor-Owned Entities	1292	1272	1258	1209	1513	1544	1542	1505	1355	1294	1265	1149	1246	1220	1341
64 Other Entities	39	39	65	65	66	38	39	38	38	38	38	39	38	38	45
65 Total Contracts In	2424	2418	2119	1799	2312	2250	2219	2177	1996	1938	1911	1750	1751	1590	2025

Table A-16: Regional Intra-Regional Transfers
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Intra-Regional Transfers-</i>															
1 APGI To PPL C/N/X	24	24	23	24	23	23	24	24	23	23	23	24	23	0	22
2 AVWP To BPA WP3Set	0	0	55	58	55	55	58	56	55	55	55	0	55	0	42
3 AVWP To PGE CapS	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
4 BPA To AVWP WP3Set	0	0	0	0	101	101	101	101	50	50	50	0	0	0	42
5 BPA To CCPD SFIBlk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 BPA To Other Entities	188	188	0	0	0	0	0	0	0	0	0	230	0	0	36
7 BPA To PPL PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
8 BPA To PPL CapS	184	184	194	183	229	187	211	199	177	173	173	167	174	159	186
9 BPA To PPL S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	0	35	34	5.7
10 BPA To PPL S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 BPA To PSE WP3Set	0	0	0	0	101	101	101	101	50	50	50	0	0	0	42
12 BPA To PSE PwrS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 CCPD To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 CHPD To PGE S/N/X	18	18	18	8.7	0	0	0	0	0	0	0	0	0	0	3.7
15 CIDF To UPL PwrS	14	14	0.5	0	0	0	0	0	0	0	0	12	19	20	5.5
16 DOPD To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 EWEB To PGE CapS	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
18 GCPD To AVWP PwrS	20	20	19	19	19	19	17	17	18	26	26	32	31	27	22
19 GCPD To EWEB PwrS	5.5	5.5	5.3	5.2	5.4	5.4	4.9	4.9	4.9	7.3	7.3	8.9	8.8	7.7	6.2
20 GCPD To FGRV PwrS	2	2	1	1	1	1	1	1	1	2	2	2	2	2	1.4
21 GCPD To FREC PwrS	1	1	1	0	1	1	0	0	0	1	1	1	1	1	0.7
22 GCPD To KITT PwrS	1	1	0	0	1	1	0	0	0	1	1	1	1	1	0.6
23 GCPD To KOOT PwrS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24 GCPD To LVE PwrS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25 GCPD To LVE PwrS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 GCPD To MCMN PwrS	2	2	1	1	1	1	1	1	1	2	2	2	2	2	1.4
27 GCPD To MTRF PwrS	2	2	1	1	1	1	1	1	1	2	2	2	2	2	1.4
28 GCPD To PGE PwrS	45	45	43	42	44	44	40	40	40	59	59	72	72	62	50
29 GCPD To PPL PwrS	45	45	43	42	44	44	40	40	40	59	59	72	72	62	50
30 GCPD To PPL PwrS	13	13	9.9	7.9	6.6	8.2	8.6	7.4	7.8	10	10	13	14	14	10
31 GCPD To PSE PwrS	26	26	25	24	25	25	23	23	23	34	34	42	41	36	29
32 GCPD To TPU PwrS	11	11	11	10	11	11	9.7	9.8	9.8	15	15	18	18	15	12
33 GHPD To GHP PwrS	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
34 NWCP To PSE PwrS	2.4	2.4	4.7	4.9	4.9	4.5	3.7	3.4	4.8	2.3	2.3	4.4	4.3	4.7	4.1
35 NWE To MVP PwrS	11	11	11	11	7.5	7.5	7.5	7.5	7.5	11	11	11	11	11	9.7
36 NWE To PSE PwrS	83	83	83	83	83	83	0	0	0	0	0	0	0	0	35
37 Other Entities To AVWP	100	100	100	100	100	100	0	0	0	0	0	0	0	0	42
38 Other Entities To BPA	40	51	31	29	208	203	190	203	213	214	215	50	56	53	124
39 Other Entities To DOPD	21	21	21	32	32	34	32	30	32	21	21	21	21	21	27
40 Other Entities To PGE	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117
41 PGE To AVWP PkRepl	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
42 PGE To CHPD S/N/X	10	10	17	8.7	10	11	10	10	0	0	0	0	0	0	6.4
43 PGE To EWEB PkRepl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
44 PGE To PPL Cove Repl	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
45 PPL To APGI C/N/X	24	24	23	24	23	23	24	24	23	23	23	24	23	0	22
46 PPL To APGI C/N/X	0	0	27	27	27	0	0	0	0	0	0	0	0	0	6.7
47 PPL To BPA S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48 PPL To BPA PkRepl	184	184	194	183	229	187	211	199	177	173	173	167	174	159	186
49 PPL To BPA S/Pwr/X	0	0	23	23	23	0	0	0	0	0	0	0	0	0	5.7
50 PSE To BPA WP3Set	0	0	55	58	55	55	58	56	55	55	55	0	55	0	42
51 SCL To POPD PwrS	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
52 SPN To PGE PwrS	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
53 TAUC To AVWP PwrS	188	188	188	188	188	188	188	188	188	179	94	94	161	188	173
54 Total Contracts	1718	1717	1664	1721	2242	2177	2019	1980	1823	1841	1728	1499	1510	1332	1787
<i>-Total Contracts Out-</i>															
55 Federal System	451	437	253	328	637	667	691	657	523	488	459	451	266	266	471
56 Public Entities	280	280	254	237	234	235	219	218	220	289	289	350	358	328	269
57 Investor-Owned Entities	713	725	884	870	948	849	790	779	751	746	662	524	712	587	759
58 Other Entities	274	274	273	285	423	426	320	325	330	318	318	174	173	150	289
59 Total Contracts Out	1718	1717	1664	1721	2242	2177	2019	1980	1823	1841	1728	1499	1510	1332	1787

Continued

Table A-16: Regional Intra-Regional Transfers
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Total Contracts In-</i>															
60 Federal System	235	247	369	361	578	507	524	522	507	509	510	228	352	223	409
61 Public Entities	291	291	105	107	111	113	107	105	97	98	98	333	103	99	140
62 Investor-Owned Entities	1154	1140	1125	1187	1488	1519	1349	1314	1181	1196	1082	899	1017	995	1196
63 Other Entities	39	39	65	66	65	38	39	38	38	38	38	39	38	15	43
64 Total Contracts In	1718	1717	1664	1721	2242	2177	2019	1980	1823	1841	1728	1499	1510	1332	1787

Table A-16: Regional Intra-Regional Transfers
PNW Loads and Resource Study
2011 - 2012 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Intra-Regional Transfers-</i>															
1 AVWP To BPA WP3Set	0	0	55	58	55	55	58	56	55	61	55	0	55	0	42
2 AVWP To PGE CapS	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
3 BPA To AVWP WP3Set	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 BPA To AVWP WP3Set	0	0	0	0	101	101	101	101	50	50	49	0	0	0	42
5 BPA To CCPD SFIBlk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 BPA To Other Entities	19	19	0	0	0	0	0	0	0	0	0	0	0	0	1.6
7 BPA To PPL PwrS	79	65	59	0	0	0	0	0	0	0	0	0	0	0	11
8 BPA To PPL PwrS	0	0	0	145	206	277	277	256	246	216	187	54	58	74	149
9 BPA To PPL S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 BPA To PPL S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	0	35	34	5.7
11 BPA To PPL S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 BPA To PPL S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 BPA To PPL CapS	184	184	0	0	0	0	0	0	0	0	0	0	0	0	16
14 BPA To PSE WP3Set	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 BPA To PSE WP3Set	0	0	0	0	101	101	101	101	50	50	49	0	0	0	42
16 CCPD To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CIDF To UPL PwrS	14	14	0.5	0	0	0	0	0	0	0	0	12	18	20	5.5
18 DOPD To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 EWEB To PGE CapS	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
20 GCPD To AVWP PwrS	20	20	19	0	0	0	0	0	0	0	0	0	0	0	3.2
21 GCPD To EWEB PwrS	5.5	5.5	5.3	0	0	0	0	0	0	0	0	0	0	0	0.9
22 GCPD To FGRV PwrS	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0.3
23 GCPD To FREC PwrS	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2
24 GCPD To KITT PwrS	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1
25 GCPD To KOOT PwrS	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2
26 GCPD To LVE PwrS	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2
27 GCPD To LVE PwrS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 GCPD To MCMN PwrS	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0.3
29 GCPD To MTRF PwrS	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0.3
30 GCPD To PGE PwrS	45	45	43	0	0	0	0	0	0	0	0	0	0	0	7.3
31 GCPD To PPL PwrS	45	45	43	0	0	0	0	0	0	0	0	0	0	0	7.3
32 GCPD To PPL PwrS	13	13	9.9	7.9	6.6	8.2	8.6	7.4	7.8	10	10	13	14	14	10.0
33 GCPD To PSE PwrS	26	26	25	0	0	0	0	0	0	0	0	0	0	0	4.2
34 GCPD To TPU PwrS	11	11	11	0	0	0	0	0	0	0	0	0	0	0	1.8
35 GHPD To GHP PwrS	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
36 NWCP To PSE PwrS	2.4	2.4	4.7	2.4	2.4	4.7	4.9	4.9	4.5	3.7	3.4	4.8	2.3	2.3	3.7
37 NWE To MVP PwrS	11	11	11	11	7.5	7.5	7.5	7.5	7.5	11	11	11	11	11	9.6
38 Other Entities To BPA	37	48	29	22	200	194	182	197	206	195	210	42	47	44	117
39 Other Entities To DOPD	12	12	12	19	19	20	19	18	19	12	12	12	12	12	16
40 Other Entities To PGE	117	117	117	92	92	92	92	92	92	92	92	92	92	92	96
41 PGE To AVWP PkRepl	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
42 PGE To EWEB PkRepl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
43 PGE To PPL Cove Repl	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
44 PPL To BPA S/Pwr/X	0	0	23	0	0	0	0	0	0	0	0	0	0	0	1.9
45 PPL To BPA S/Pwr/X	0	0	0	23	23	0	0	0	0	0	0	0	0	0	3.8
46 PPL To BPA S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 PPL To BPA S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48 PPL To BPA PkRepl	184	184	0	0	0	0	0	0	0	0	0	0	0	0	16
49 PSE To BPA WP3Set	0	0	55	58	55	55	58	56	55	61	55	0	55	0	42
50 SCL To POPD PwrS	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
51 SPN To PGE PwrS	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
52 TAUC To AVWP PwrS	188	188	188	188	188	188	188	188	188	188	188	100	188	188	180
53 Total Contracts	1278	1277	973	883	1314	1361	1353	1341	1236	1207	1179	598	845	748	1092
<i>-Total Contracts Out-</i>															
54 Federal System	282	268	59	145	408	480	479	458	345	316	285	54	92	108	267
55 Public Entities	260	260	234	70	69	73	74	72	72	74	74	89	95	96	107
56 Investor-Owned Entities	596	608	539	544	575	545	543	545	550	568	560	339	542	428	526
57 Other Entities	141	141	141	123	262	264	257	266	268	249	260	116	116	116	193
58 Total Contracts Out	1278	1277	973	883	1314	1361	1353	1341	1236	1207	1179	598	845	748	1092
<i>-Total Contracts In-</i>															

Continued

Table A-16: Regional Intra-Regional Transfers
 PNW Loads and Resource Study
 2011 - 2012 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
59 Federal System	232	244	173	171	341	311	305	315	323	328	331	54	169	55	231
60 Public Entities	103	103	79	64	64	65	64	64	64	57	57	57	57	57	66
61 Investor-Owned Entities	929	915	706	633	894	970	970	947	835	807	776	472	604	621	780
62 Other Entities	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
63 Total Contracts In	1278	1277	973	883	1314	1361	1353	1341	1236	1207	1179	598	845	748	1092

Table A-16: Regional Intra-Regional Transfers
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Intra-Regional Transfers-</i>															
1 AVWP To BPA WP3Set	0	0	57	54	55	57	54	55	57	55	55	0	57	0	42
2 AVWP To PGE CapS	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
3 BPA To AVWP WP3Set	0	0	0	0	101	101	101	101	50	50	50	0	0	0	42
4 BPA To PPL PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
5 BPA To PPL S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	0	35	34	5.7
6 BPA To PPL S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 BPA To PSE WP3Set	0	0	0	0	101	101	101	101	50	50	50	0	0	0	42
8 CIDF To UPL PwrS	14	14	0.5	0	0	0	0	0	0	0	0	12	18	20	5.5
9 DOPD To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 EWEB To PGE CapS	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
11 GCPD To PPL PwrS	13	13	9.9	7.9	6.6	8.2	8.6	7.4	7.8	10	10	13	14	14	10
12 GHPD To GHP PwrS	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
13 NWCP To PSE PwrS	2.4	2.4	4.7	2.4	2.4	4.7	0	0	0	0	0	0	0	0	1.4
14 NWE To MVP PwrS	11	11	11	11	7.5	7.5	7.5	7.5	7.5	11	11	11	11	11	9.7
15 Other Entities To BPA	27	39	22	22	200	188	188	196	200	208	210	42	48	44	115
16 Other Entities To DOPD	14	14	14	22	23	23	23	21	22	14	14	14	14	14	18
17 Other Entities To PGE	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92
18 PGE To AVWP PkRepl	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
19 PGE To EWEB PkRepl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
20 PGE To PPL Cove Repl	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
21 PPL To BPA S/Pwr/X	0	0	23	23	23	0	0	0	0	0	0	0	0	0	5.7
22 PPL To BPA S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 PSE To BPA WP3Set	0	0	57	54	55	57	54	55	57	55	55	0	57	0	42
24 SCL To POPD PwrS	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
25 SPN To PGE PwrS	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
26 TAUC To AVWP PwrS	188	188	188	188	188	188	188	188	188	188	188	188	100	188	181
27 Total Contracts	698	695	796	879	1317	1361	1353	1337	1233	1205	1178	683	761	747	1027
<i>-Total Contracts Out-</i>															
28 Federal System	79	65	59	145	408	480	479	458	345	315	286	54	92	108	249
29 Public Entities	90	90	75	70	69	73	69	67	68	70	70	85	92	94	77
30 Investor-Owned Entities	412	423	544	538	574	548	538	544	554	557	559	427	459	428	510
31 Other Entities	118	118	118	126	265	261	267	268	266	262	262	118	118	118	192
32 Total Contracts Out	698	695	796	879	1317	1361	1353	1337	1233	1205	1178	683	761	747	1027
<i>-Total Contracts In-</i>															
33 Federal System	39	50	171	165	340	309	304	314	321	329	330	54	174	55	214
34 Public Entities	59	59	59	67	68	68	69	66	67	59	59	59	59	59	63
35 Investor-Owned Entities	586	571	551	633	894	970	965	942	830	802	774	555	514	618	735
36 Other Entities	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
37 Total Contracts In	698	695	796	879	1317	1361	1353	1337	1233	1205	1178	683	761	747	1027

Table A-16: Regional Intra-Regional Transfers
PNW Loads and Resource Study
2013 - 2014 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Intra-Regional Transfers-</i>															
1 AVWP To BPA WP3Set	0	0	57	54	55	57	54	55	57	55	55	0	57	0	42
2 AVWP To PGE CapS	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
3 BPA To AVWP WP3Set	0	0	0	0	101	101	101	101	50	50	50	0	0	0	42
4 BPA To PPL PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
5 BPA To PPL S/Pwr/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 BPA To PPL S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 BPA To PSE WP3Set	0	0	0	0	101	101	101	101	50	50	50	0	0	0	42
8 CIDF To UPL PwrS	15	15	0.3	0	0	0	0	0	0	0	0	12	18	20	5.5
9 DOPD To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 EWEB To PGE CapS	3	3	3	3	3	3	3	3	3	3	3	3	0	0	2.5
11 GCPD To PPL PwrS	13	13	9.9	7.9	6.6	8.2	8.6	7.2	7.8	10	10	13	14	14	10.0
12 GHPD To GHP PwrS	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
13 NWE To MVP PwrS	11	11	11	11	7.5	7.5	7.5	7.5	7.5	11	11	11	11	11	9.7
14 Other Entities To BPA	27	39	22	22	173	161	160	167	172	180	181	42	48	44	101
15 Other Entities To DOPD	16	16	16	24	24	24	25	22	24	16	16	16	16	16	20
16 Other Entities To PGE	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92
17 PGE To AVWP PkRepl	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
18 PGE To EWEB PkRepl	3	3	3	3	3	3	3	3	3	3	3	3	0	0	2.5
19 PGE To PPL Cove Repl	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
20 PPL To BPA S/Pwr/X	0	0	23	23	23	0	0	0	0	0	0	0	0	0	5.7
21 PPL To BPA S/N/X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 PSE To BPA WP3Set	0	0	57	54	55	57	54	55	57	55	55	0	57	0	42
23 SCL To POPD PwrS	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
24 SPN To PGE PwrS	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
25 TAUC To AVWP PwrS	188	188	188	188	188	188	188	188	188	188	188	100	188	188	180
26 Total Contracts	698	695	793	879	1288	1331	1326	1310	1207	1178	1151	597	811	710	1007
<i>-Total Contracts Out-</i>															
27 Federal System	79	65	59	145	408	480	479	458	345	315	286	54	58	74	243
28 Public Entities	87	87	70	68	67	68	69	67	68	70	70	85	89	91	75
29 Investor-Owned Entities	412	423	544	538	574	548	538	544	554	557	559	339	544	425	509
30 Other Entities	120	120	120	128	239	236	241	241	240	236	236	120	120	120	180
31 Total Contracts Out	698	695	793	879	1288	1331	1326	1310	1207	1178	1151	597	811	710	1007
<i>-Total Contracts In-</i>															
32 Federal System	39	50	171	165	312	282	276	286	293	300	301	54	174	55	200
33 Public Entities	61	61	61	69	70	70	70	68	69	61	61	61	58	58	65
34 Investor-Owned Entities	584	569	547	630	892	965	965	942	830	802	774	468	564	582	728
35 Other Entities	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
36 Total Contracts In	698	695	793	879	1288	1331	1326	1310	1207	1178	1151	597	811	710	1007

Table A-16: Regional Intra-Regional Transfers
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Intra-Regional Transfers-</i>															
1 AVWP To BPA WP3Set	0	0	55	55	58	55	55	56	58	55	55	0	55	0	42
2 AVWP To PGE CapS	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
3 BPA To AVWP WP3Set	0	0	0	0	101	101	101	101	50	50	50	0	0	0	42
4 BPA To PPL PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
5 BPA To PSE WP3Set	0	0	0	0	101	101	101	101	50	50	50	0	0	0	42
6 CIDF To UPL PwrS	15	15	0	0	0	0	0	0	0	0	0	12	19	20	5.5
7 DOPD To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 GCPD To PPL PwrS	13	13	9.9	7.9	6.6	8.2	8.6	7.4	7.8	10	10	13	14	14	10
9 GHPD To GHP PwrS	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
10 NWE To MVP PwrS	11	11	11	11	7.5	7.5	7.5	7.5	7.5	11	11	11	11	11	9.7
11 Other Entities To BPA	27	39	21	22	34	27	21	24	32	35	36	43	47	44	32
12 Other Entities To DOPD	18	18	18	27	26	28	28	25	27	18	18	18	18	18	22
13 Other Entities To PGE	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92
14 PGE To AVWP PkRepl	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
15 PGE To PPL Cove Repl	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
16 PSE To BPA WP3Set	0	0	55	55	58	55	55	56	58	55	55	0	55	0	42
17 SCL To POPD PwrS	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
18 SPN To PGE PwrS	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
19 TAUC To AVWP PwrS	188	188	188	188	188	188	188	188	188	188	188	188	100	188	181
20 Total Contracts	694	691	761	854	1130	1191	1185	1166	1065	1031	1004	681	720	712	930
<i>-Total Contracts Out-</i>															
21 Federal System	79	65	59	145	408	480	479	458	345	315	286	54	58	74	243
22 Public Entities	85	85	67	65	64	65	66	64	65	67	67	81	89	91	72
23 Investor-Owned Entities	409	420	513	513	528	514	508	514	524	527	528	424	451	425	488
24 Other Entities	122	122	122	131	130	132	132	129	131	122	122	122	122	122	126
25 Total Contracts Out	694	691	761	854	1130	1191	1185	1166	1065	1031	1004	681	720	712	930
<i>-Total Contracts In-</i>															
26 Federal System	39	50	143	143	158	144	138	144	154	157	158	54	169	55	125
27 Public Entities	60	60	60	69	68	70	70	67	69	60	60	60	60	60	65
28 Investor-Owned Entities	581	566	543	627	889	962	962	939	827	799	771	552	476	582	725
29 Other Entities	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
30 Total Contracts In	694	691	761	854	1130	1191	1185	1166	1065	1031	1004	681	720	712	930

Table A-16: Regional Intra-Regional Transfers
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Intra-Regional Transfers-</i>															
1 AVWP To BPA WP3Set	0	0	55	55	58	55	58	56	55	55	55	0	55	0	42
2 AVWP To PGE CapS	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
3 BPA To AVWP WP3Set	0	0	0	0	101	101	101	101	50	50	50	0	0	0	42
4 BPA To PPL PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
5 BPA To PSE WP3Set	0	0	0	0	101	101	101	101	50	50	50	0	0	0	42
6 CIDF To UPL PwrS	15	15	0.3	0	0	0	0	0	0	0	0	12	19	20	5.5
7 DOPD To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 GCPD To PPL PwrS	13	13	9.9	7.9	6.6	8.2	8.6	7.4	7.8	10	10	13	14	14	10.0
9 GHPD To GHP PwrS	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
10 NWE To MVP PwrS	11	11	11	11	7.5	7.5	7.5	7.5	7.5	11	11	11	11	11	9.6
11 Other Entities To BPA	27	39	21	22	34	27	21	24	32	35	36	43	47	44	32
12 Other Entities To DOPD	20	20	20	30	29	32	31	29	30	20	20	20	20	20	25
13 Other Entities To PGE	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92
14 PGE To AVWP PkRepl	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
15 PGE To PPL Cove Repl	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
16 PSE To BPA WP3Set	0	0	55	55	58	55	58	56	55	55	55	0	55	0	42
17 SCL To POPD PwrS	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
18 SPN To PGE PwrS	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
19 TAUC To AVWP PwrS	188	188	188	188	188	188	188	188	179	94	94	161	188	188	177
20 Total Contracts	696	693	764	858	1133	1195	1193	1169	1054	940	912	656	811	714	930
<i>-Total Contracts Out-</i>															
21 Federal System	79	65	59	145	408	480	479	458	345	315	286	54	58	74	244
22 Public Entities	84	84	67	65	64	65	66	64	65	67	67	82	89	91	72
23 Investor-Owned Entities	409	420	514	513	528	514	514	514	510	433	435	397	540	425	484
24 Other Entities	124	124	124	134	133	136	135	133	134	124	124	124	124	124	129
25 Total Contracts Out	696	693	764	858	1133	1195	1193	1169	1054	940	912	656	811	714	930
<i>-Total Contracts In-</i>															
26 Federal System	39	50	144	143	158	144	144	144	149	157	158	54	169	55	125
27 Public Entities	62	62	62	72	72	74	73	72	72	62	62	62	62	62	67
28 Investor-Owned Entities	581	566	544	627	889	962	962	939	818	705	677	525	564	582	722
29 Other Entities	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
30 Total Contracts In	696	693	764	858	1133	1195	1193	1169	1054	940	912	656	811	714	930

Table A-16: Regional Intra-Regional Transfers
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Intra-Regional Transfers-</i>															
1 AVWP To BPA WP3Set	0	0	55	57	55	55	57	56	54	55	61	0	55	0	42
2 AVWP To PGE CapS	45	45	45	45	45	45	0	0	0	0	0	0	0	0	19
3 BPA To AVWP WP3Set	0	0	0	0	101	101	101	101	50	49	50	0	0	0	42
4 BPA To PPL PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
5 BPA To PSE WP3Set	0	0	0	0	101	101	101	101	50	49	50	0	0	0	42
6 CIDF To UPL PwrS	15	15	0.3	0	0	0	0	0	0	0	0	12	19	20	5.5
7 DOPD To Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 GCPD To PPL PwrS	13	13	9.9	7.9	6.6	8.2	8.6	7.4	7.8	10	10	13	14	14	10
9 GHPD To GHP PwrS	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
10 NWE To MVP PwrS	11	11	11	11	7.5	7.5	7.5	7.5	7.5	11	11	11	11	11	9.7
11 Other Entities To BPA	27	39	21	22	34	27	21	24	32	35	36	42	47	44	32
12 Other Entities To DOPD	7	7	7	11	11	11	11	10	11	7	7	7	7	7	9.0
13 Other Entities To PGE	92	92	92	0	0	0	0	0	0	0	0	0	0	0	15
14 PGE To AVWP PkRepl	45	45	45	45	45	45	0	0	0	0	0	0	0	0	19
15 PGE To PPL Cove Repl	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
16 PSE To BPA WP3Set	0	0	55	57	55	55	57	56	54	55	61	0	55	0	42
17 SCL To POPD PwrS	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
18 SPN To PGE PwrS	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
19 TAUC To AVWP PwrS	188	188	188	188	188	188	188	188	188	188	188	188	188	188	188
20 Total Contracts	683	680	750	751	1016	1081	991	969	862	837	823	489	615	520	795
<i>-Total Contracts Out-</i>															
21 Federal System	79	65	59	145	408	480	479	458	345	314	287	54	58	74	243
22 Public Entities	84	84	67	65	64	65	66	64	65	67	67	82	89	91	72
23 Investor-Owned Entities	409	420	513	426	429	421	332	332	337	345	358	242	357	244	366
24 Other Entities	111	111	111	115	115	115	115	114	115	111	111	111	111	111	113
25 Total Contracts Out	683	680	750	751	1016	1081	991	969	862	837	823	489	615	520	795
<i>-Total Contracts In-</i>															
26 Federal System	39	50	142	148	151	143	143	143	148	156	169	54	168	55	125
27 Public Entities	49	49	49	53	53	54	53	52	53	49	49	49	49	49	51
28 Investor-Owned Entities	581	566	544	535	797	870	781	758	646	617	590	371	383	400	604
29 Other Entities	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
30 Total Contracts In	683	680	750	751	1016	1081	991	969	862	837	823	489	615	520	795

Table A-16: Regional Intra-Regional Transfers
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Intra-Regional Transfers-</i>															
1 BPA To PPL PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
2 BPA To PSE WP3Set	0	0	0	0	101	101	101	101	50	49	50	0	0	0	42
3 CIDF To UPL PwrS	15	15	0.3	0	0	0	0	0	0	0	0	12	19	20	5.5
4 GCPD To PPL PwrS	13	13	9.9	7.9	6.6	8.2	8.6	7.2	7.8	10	10	13	14	14	10.0
5 GHPD To GHP PwrS	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
6 NWE To MVP PwrS	11	11	11	11	7.5	7.5	7.5	7.5	7.5	11	11	11	11	11	9.7
7 Other Entities To BPA	27	39	21	22	34	26	21	24	32	35	36	42	47	44	32
8 PGE To PPL Cove Repl	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
9 PSE To BPA WP3Set	0	0	55	57	55	57	55	56	54	61	55	0	55	0	42
10 SCL To POPD PwrS	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
11 SPN To PGE PwrS	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
12 TAUC To AVWP PwrS	188	188	188	188	188	188	188	188	188	188	188	188	188	188	188
13 Total Contracts	495	492	507	593	760	828	819	801	746	732	699	482	553	513	650
<i>-Total Contracts Out-</i>															
14 Federal System	79	65	59	145	307	379	378	357	295	265	237	54	58	74	201
15 Public Entities	84	84	67	65	64	65	66	64	65	67	67	82	89	91	72
16 Investor-Owned Entities	227	239	276	279	285	280	271	276	282	296	291	242	302	244	272
17 Other Entities	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
18 Total Contracts Out	495	492	507	593	760	828	819	801	746	732	699	482	553	513	650
<i>-Total Contracts In-</i>															
19 Federal System	39	50	88	90	96	91	83	88	93	107	102	54	114	55	83
20 Public Entities	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
21 Investor-Owned Entities	399	385	362	446	606	680	679	657	596	568	540	371	383	400	510
22 Other Entities	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
23 Total Contracts In	495	492	507	593	760	828	819	801	746	732	699	482	553	513	650

Table A-16: Regional Intra-Regional Transfers
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Intra-Regional Transfers-</i>															
1 BPA To PPL PwrS	79	65	59	145	206	277	277	256	246	216	187	54	58	74	160
2 BPA To PSE WP3Set	0	0	0	0	101	101	101	101	50	49	50	0	0	0	42
3 CIDF To UPL PwrS	15	15	0.3	0	0	0	0	0	0	0	0	12	19	20	5.5
4 GCPD To PPL PwrS	13	13	9.9	7.9	6.6	8.2	8.6	7.4	7.8	10	10	13	14	14	10
5 GHPD To GHP PwrS	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
6 NWE To MVP PwrS	11	11	11	11	7.5	7.5	7.5	7.5	7.5	11	11	11	11	11	9.7
7 Other Entities To BPA	27	39	22	22	34	26	21	0	0	0	0	0	0	0	13
8 PGE To PPL Cove Repl	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
9 PSE To BPA WP3Set	0	0	57	54	55	57	54	55	57	55	55	0	57	0	42
10 SCL To POPD PwrS	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
11 SPN To PGE PwrS	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
12 TAUC To AVWP PwrS	188	188	188	188	188	188	0	0	0	0	0	0	0	0	79
13 Total Contracts	495	492	509	590	759	827	631	589	530	503	475	251	321	281	522
<i>-Total Contracts Out-</i>															
14 Federal System	79	65	59	145	307	379	378	357	295	265	237	54	58	74	201
15 Public Entities	84	84	67	65	64	65	66	64	65	67	67	82	89	91	72
16 Investor-Owned Entities	227	239	279	276	285	280	83	64	65	67	67	12	70	12	144
17 Other Entities	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
18 Total Contracts Out	495	492	509	590	759	827	631	589	530	503	475	251	321	281	522
<i>-Total Contracts In-</i>															
19 Federal System	39	50	90	87	96	91	82	63	64	66	66	11	69	11	64
20 Public Entities	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
21 Investor-Owned Entities	399	385	362	446	606	680	492	469	408	380	352	183	195	212	401
22 Other Entities	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
23 Total Contracts In	495	492	509	590	759	827	631	589	530	503	475	251	321	281	522

Table A-17
Capacity Reserves
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Capacity Reserves are not applicable to energy.

Reports Powered by:



Loads and Resources Information System

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Hydro Reserves															
-Federal Entities-															
1 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-															
4 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Pend Oreille County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-															
17 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Bonners Ferry, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Centralia, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Colville Tribes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Forest Grove, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Idaho Falls Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Kittitas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Lower Valley Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 McMinnville, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 Milton-Freewater, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Northern Lights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Northern Wasco County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Soda Springs, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Investor-Owned Entities-															
42 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 PPL Montana, LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Other Entities-															
50 Alcoa Power Generating Inc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Colockum Transmission Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2009 - 2010 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
52 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Unknown Entity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 UnKnown PNW Marketer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 Warm Springs Power Enterprise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Small Thermal & Misc. Reserves</u>															
<u>-Federal Entities-</u>															
57 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 U.S. Naval Station, Everett (Jim Creek)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60 U.S. Naval Submarine Base, Bangor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Generating Public Entities-</u>															
62 Burbank, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68 Glendale, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Los Angeles Dept of Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72 M-S-R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74 Sacramento Municipal Utility District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77 Springfield Utility Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Non-Generating Public Entities-</u>															
81 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
82 Benton County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 Franklin County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 Klamath Falls, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Lakeview L & P (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95 Mason County PUD #3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97 Portland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98 Spokane, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Investor-Owned Entities-</u>															
102 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2009 - 2010 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
105 Pacific Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
111 Avista Energy Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112 Boise Cascade Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113 Chehalis Power Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114 Covanta Energy Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115 Frederickson Power LP,	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116 Georgia-Pacific West, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117 Grays Harbor Energy LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118 Hermiston Power Partnership	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119 Iberdrola Renewables	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120 King County Property Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122 Macquarie Cook Power, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123 Mirant Americas Energy Marketing, L.P.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124 Oremet - Wah Chang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125 Pacific Klamath Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 SP Newsprint	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128 Wayzata Investment Partners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129 Weyerhaeuser Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130 White Creek LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Large Thermal Reserves</u>															
<i>-Federal Entities-</i>															
132 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
134 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
136 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
137 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143 San Diego Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
145 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Contract Reserves</u>															
<i>-Federal Entities-</i>															
147 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
148 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
150 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
151 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
153 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Capacity Reserves-</i>															
154 Total Hydro Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155 Total Small Thermal & Misc Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156 Total Large Thermal Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157 Total Contract Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158 Total Capacity Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2010 - 2011 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Hydro Reserves															
-Federal Entities-															
1 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-															
4 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Pend Oreille County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-															
17 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Bonners Ferry, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Centralia, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Colville Tribes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Forest Grove, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Idaho Falls Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Kittitas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Lower Valley Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 McMinnville, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Milton-Freewater, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Northern Lights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Northern Wasco County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Soda Springs, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Investor-Owned Entities-															
43 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 PPL Montana, LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Other Entities-															
51 Alcoa Power Generating Inc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2010 - 2011 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
52 Colockum Transmission Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Unknown Entity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 UnKnown PNW Marketer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Warm Springs Power Enterprise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Small Thermal & Misc. Reserves</u>															
<u>-Federal Entities-</u>															
58 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60 U.S. Naval Station, Everett (Jim Creek)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 U.S. Naval Submarine Base, Bangor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Generating Public Entities-</u>															
63 Burbank, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69 Glendale, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72 Los Angeles Dept of Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73 M-S-R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75 Sacramento Municipal Utility District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78 Springfield Utility Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Non-Generating Public Entities-</u>															
82 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Benton County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 Franklin County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91 Klamath Falls, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93 Lakeview L & P (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96 Mason County PUD #3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98 Portland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99 Spokane, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Investor-Owned Entities-</u>															
103 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2010 - 2011 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
105 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106 Pacific Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
112 Avista Energy Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113 Boise Cascade Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114 Chehalis Power Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115 Covanta Energy Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116 Frederickson Power LP,	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117 Georgia-Pacific West, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118 Grays Harbor Energy LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119 Hermiston Power Partnership	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120 Iberdrola Renewables	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121 King County Property Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123 Macquarie Cook Power, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124 Mirant Americas Energy Marketing, L.P.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125 Oremet - Wah Chang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Pacific Klamath Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127 SP Newsprint	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129 Wayzata Investment Partners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130 Weyerhaeuser Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131 White Creek LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Large Thermal Reserves</u>															
<i>-Federal Entities-</i>															
133 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
135 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
137 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
138 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144 San Diego Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
146 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Contract Reserves</u>															
<i>-Federal Entities-</i>															
148 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continued

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
149 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
151 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
152 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
154 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Capacity Reserves-</i>															
155 Total Hydro Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156 Total Small Thermal & Misc Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157 Total Large Thermal Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158 Total Contract Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
159 Total Capacity Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2011 - 2012 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Hydro Reserves															
-Federal Entities-															
1 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-															
4 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Pend Oreille County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-															
17 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Bonners Ferry, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Centralia, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Colville Tribes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Forest Grove, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Idaho Falls Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Kittitas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Lower Valley Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 McMinnville, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Milton-Freewater, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Northern Lights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Northern Wasco County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Soda Springs, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Investor-Owned Entities-															
43 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 PPL Montana, LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Other Entities-															
51 Alcoa Power Generating Inc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2011 - 2012 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
52 Colockum Transmission Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Unknown Entity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 UnKnown PNW Marketer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Warm Springs Power Enterprise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Small Thermal & Misc. Reserves</u>															
<u>-Federal Entities-</u>															
58 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60 U.S. Naval Station, Everett (Jim Creek)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 U.S. Naval Submarine Base, Bangor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Generating Public Entities-</u>															
63 Burbank, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69 Glendale, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72 Los Angeles Dept of Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73 M-S-R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75 Sacramento Municipal Utility District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78 Springfield Utility Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Non-Generating Public Entities-</u>															
82 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Benton County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 Franklin County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91 Klamath Falls, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93 Lakeview L & P (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96 Mason County PUD #3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98 Portland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99 Spokane, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Investor-Owned Entities-</u>															
103 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2011 - 2012 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
105 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106 Pacific Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Other Entities-															
112 Avista Energy Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113 Boise Cascade Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114 Chehalis Power Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115 Covanta Energy Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116 Frederickson Power LP,	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117 Georgia-Pacific West, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118 Grays Harbor Energy LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119 Hermiston Power Partnership	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120 Iberdrola Renewables	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121 King County Property Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123 Macquarie Cook Power, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124 Mirant Americas Energy Marketing, L.P.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125 Oremet - Wah Chang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Pacific Klamath Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127 SP Newsprint	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129 Wayzata Investment Partners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130 Weyerhaeuser Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131 White Creek LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Large Thermal Reserves															
-Federal Entities-															
133 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-															
135 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-															
137 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Investor-Owned Entities-															
138 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144 San Diego Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Other Entities-															
146 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Contract Reserves															
-Federal Entities-															
148 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continued

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2011 - 2012 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
149 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
151 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
152 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
153 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Capacity Reserves-</i>															
154 Total Hydro Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155 Total Small Thermal & Misc Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156 Total Large Thermal Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157 Total Contract Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158 Total Capacity Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2012 - 2013 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Hydro Reserves															
-Federal Entities-															
1 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-															
4 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Pend Oreille County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-															
17 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Bonners Ferry, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Centralia, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Colville Tribes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Forest Grove, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Idaho Falls Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Kittitas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Lower Valley Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 McMinnville, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Milton-Freewater, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Northern Lights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Northern Wasco County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Soda Springs, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Investor-Owned Entities-															
43 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 PPL Montana, LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Other Entities-															
51 Alcoa Power Generating Inc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2012 - 2013 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
52 Colockum Transmission Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Unknown Entity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 UnKnown PNW Marketer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Warm Springs Power Enterprise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Small Thermal & Misc. Reserves</u>															
<u>-Federal Entities-</u>															
58 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60 U.S. Naval Station, Everett (Jim Creek)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 U.S. Naval Submarine Base, Bangor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Generating Public Entities-</u>															
63 Burbank, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69 Glendale, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72 Los Angeles Dept of Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73 M-S-R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75 Sacramento Municipal Utility District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78 Springfield Utility Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Non-Generating Public Entities-</u>															
82 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Benton County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 Franklin County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91 Klamath Falls, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93 Lakeview L & P (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96 Mason County PUD #3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98 Portland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99 Spokane, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Investor-Owned Entities-</u>															
103 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2012 - 2013 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
105 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106 Pacific Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
112 Avista Energy Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113 Boise Cascade Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114 Chehalis Power Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115 Covanta Energy Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116 Frederickson Power LP,	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117 Georgia-Pacific West, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118 Grays Harbor Energy LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119 Hermiston Power Partnership	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120 Iberdrola Renewables	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121 King County Property Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123 Macquarie Cook Power, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124 Mirant Americas Energy Marketing, L.P.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125 Oremet - Wah Chang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Pacific Klamath Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127 SP Newsprint	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129 Wayzata Investment Partners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130 Weyerhaeuser Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131 White Creek LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Large Thermal Reserves</u>															
<i>-Federal Entities-</i>															
133 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
135 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
137 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
138 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144 San Diego Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
146 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Contract Reserves</u>															
<i>-Federal Entities-</i>															
148 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continued

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2012 - 2013 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
149 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
151 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
152 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
153 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Capacity Reserves-</i>															
154 Total Hydro Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155 Total Small Thermal & Misc Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156 Total Large Thermal Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157 Total Contract Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158 Total Capacity Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2013 - 2014 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Hydro Reserves															
-Federal Entities-															
1 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-															
4 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Pend Oreille County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-															
17 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Bonners Ferry, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Centralia, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Colville Tribes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Forest Grove, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Idaho Falls Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Kittitas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Lower Valley Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 McMinnville, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Milton-Freewater, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Northern Lights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Northern Wasco County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Soda Springs, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Investor-Owned Entities-															
43 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 PPL Montana, LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Other Entities-															
51 Alcoa Power Generating Inc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2013 - 2014 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
52 Colockum Transmission Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Unknown Entity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 UnKnown PNW Marketer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Warm Springs Power Enterprise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Small Thermal & Misc. Reserves</u>															
<u>-Federal Entities-</u>															
58 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60 U.S. Naval Station, Everett (Jim Creek)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 U.S. Naval Submarine Base, Bangor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Generating Public Entities-</u>															
63 Burbank, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69 Glendale, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72 Los Angeles Dept of Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73 M-S-R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75 Sacramento Municipal Utility District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78 Springfield Utility Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Non-Generating Public Entities-</u>															
82 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Benton County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 Franklin County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91 Klamath Falls, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93 Lakeview L & P (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96 Mason County PUD #3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98 Portland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99 Spokane, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Investor-Owned Entities-</u>															
103 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2013 - 2014 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
105 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106 Pacific Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
112 Avista Energy Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113 Boise Cascade Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114 Chehalis Power Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115 Covanta Energy Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116 Frederickson Power LP,	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117 Georgia-Pacific West, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118 Grays Harbor Energy LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119 Hermiston Power Partnership	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120 Iberdrola Renewables	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121 King County Property Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123 Macquarie Cook Power, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124 Mirant Americas Energy Marketing, L.P.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125 Oremet - Wah Chang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Pacific Klamath Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127 SP Newsprint	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129 Wayzata Investment Partners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130 Weyerhaeuser Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131 White Creek LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Large Thermal Reserves</u>															
<i>-Federal Entities-</i>															
133 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
135 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
137 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
138 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144 San Diego Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
146 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Contract Reserves</u>															
<i>-Federal Entities-</i>															
148 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continued

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2013 - 2014 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
149 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
151 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
152 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
153 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Capacity Reserves-</i>															
154 Total Hydro Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155 Total Small Thermal & Misc Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156 Total Large Thermal Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157 Total Contract Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158 Total Capacity Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2014 - 2015 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Hydro Reserves															
-Federal Entities-															
1 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-															
4 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Pend Oreille County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-															
17 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Bonners Ferry, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Centralia, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Colville Tribes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Forest Grove, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Idaho Falls Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Kittitas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Lower Valley Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 McMinnville, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Milton-Freewater, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Northern Lights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Northern Wasco County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Soda Springs, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Investor-Owned Entities-															
43 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 PPL Montana, LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Other Entities-															
51 Alcoa Power Generating Inc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continued

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
52 Colockum Transmission Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Unknown Entity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 UnKnown PNW Marketer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Warm Springs Power Enterprise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Thermal & Misc. Reserves															
-Federal Entities-															
58 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60 U.S. Naval Station, Everett (Jim Creek)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 U.S. Naval Submarine Base, Bangor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-															
63 Burbank, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69 Glendale, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72 Los Angeles Dept of Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73 M-S-R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75 Sacramento Municipal Utility District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78 Springfield Utility Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-															
82 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Benton County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87 Emerald County PUD	0	0</													

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2014 - 2015 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
105 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106 Pacific Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
112 Avista Energy Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113 Boise Cascade Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114 Chehalis Power Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115 Covanta Energy Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116 Frederickson Power LP,	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117 Georgia-Pacific West, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118 Grays Harbor Energy LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119 Hermiston Power Partnership	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120 Iberdrola Renewables	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121 King County Property Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123 Macquarie Cook Power, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124 Mirant Americas Energy Marketing, L.P.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125 Oremet - Wah Chang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Pacific Klamath Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127 SP Newsprint	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129 Wayzata Investment Partners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130 Weyerhaeuser Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131 White Creek LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Large Thermal Reserves</u>															
<i>-Federal Entities-</i>															
133 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
135 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
137 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
138 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144 San Diego Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
146 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Contract Reserves</u>															
<i>-Federal Entities-</i>															
148 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continued

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2014 - 2015 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
149 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
151 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
152 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
153 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Capacity Reserves-</i>															
154 Total Hydro Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155 Total Small Thermal & Misc Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156 Total Large Thermal Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157 Total Contract Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158 Total Capacity Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2015 - 2016 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Hydro Reserves															
-Federal Entities-															
1 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-															
4 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Pend Oreille County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-															
17 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Bonners Ferry, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Centralia, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Colville Tribes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Forest Grove, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Idaho Falls Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Kittitas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Lower Valley Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 McMinnville, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Milton-Freewater, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Northern Lights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Northern Wasco County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Soda Springs, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Investor-Owned Entities-															
43 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 PPL Montana, LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Other Entities-															
51 Alcoa Power Generating Inc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2015 - 2016 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
52 Colockum Transmission Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Unknown Entity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 UnKnown PNW Marketer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Warm Springs Power Enterprise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Small Thermal & Misc. Reserves</u>															
<u>-Federal Entities-</u>															
58 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60 U.S. Naval Station, Everett (Jim Creek)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 U.S. Naval Submarine Base, Bangor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Generating Public Entities-</u>															
63 Burbank, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69 Glendale, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72 Los Angeles Dept of Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73 M-S-R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75 Sacramento Municipal Utility District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78 Springfield Utility Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Non-Generating Public Entities-</u>															
82 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Benton County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 Franklin County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91 Klamath Falls, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93 Lakeview L & P (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96 Mason County PUD #3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98 Portland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99 Spokane, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Investor-Owned Entities-</u>															
103 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2015 - 2016 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
105 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106 Pacific Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
112 Avista Energy Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113 Boise Cascade Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114 Chehalis Power Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115 Covanta Energy Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116 Frederickson Power LP,	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117 Georgia-Pacific West, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118 Grays Harbor Energy LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119 Hermiston Power Partnership	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120 Iberdrola Renewables	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121 King County Property Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123 Macquarie Cook Power, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124 Mirant Americas Energy Marketing, L.P.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125 Oremet - Wah Chang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Pacific Klamath Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127 SP Newsprint	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129 Wayzata Investment Partners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130 Weyerhaeuser Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131 White Creek LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Large Thermal Reserves</u>															
<i>-Federal Entities-</i>															
133 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
135 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
137 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
138 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144 San Diego Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
146 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Contract Reserves</u>															
<i>-Federal Entities-</i>															
148 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continued

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2015 - 2016 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
149 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
151 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
152 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
153 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Capacity Reserves-</i>															
154 Total Hydro Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155 Total Small Thermal & Misc Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156 Total Large Thermal Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157 Total Contract Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158 Total Capacity Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2016 - 2017 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Hydro Reserves															
-Federal Entities-															
1 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-															
4 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Pend Oreille County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-															
17 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Bonners Ferry, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Centralia, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Colville Tribes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Forest Grove, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Idaho Falls Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Kittitas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Lower Valley Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 McMinnville, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Milton-Freewater, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Northern Lights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Northern Wasco County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Soda Springs, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Investor-Owned Entities-															
43 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 PPL Montana, LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Other Entities-															
51 Alcoa Power Generating Inc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2016 - 2017 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
52 Colockum Transmission Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Unknown Entity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 UnKnown PNW Marketer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Warm Springs Power Enterprise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Small Thermal & Misc. Reserves</u>															
<u>-Federal Entities-</u>															
58 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60 U.S. Naval Station, Everett (Jim Creek)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 U.S. Naval Submarine Base, Bangor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Generating Public Entities-</u>															
63 Burbank, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69 Glendale, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72 Los Angeles Dept of Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73 M-S-R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75 Sacramento Municipal Utility District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78 Springfield Utility Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Non-Generating Public Entities-</u>															
82 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Benton County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 Franklin County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91 Klamath Falls, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93 Lakeview L & P (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96 Mason County PUD #3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98 Portland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99 Spokane, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Investor-Owned Entities-</u>															
103 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2016 - 2017 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
105 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106 Pacific Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
112 Avista Energy Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113 Boise Cascade Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114 Chehalis Power Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115 Covanta Energy Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116 Frederickson Power LP,	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117 Georgia-Pacific West, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118 Grays Harbor Energy LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119 Hermiston Power Partnership	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120 Iberdrola Renewables	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121 King County Property Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123 Macquarie Cook Power, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124 Mirant Americas Energy Marketing, L.P.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125 Oremet - Wah Chang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Pacific Klamath Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127 SP Newsprint	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129 Wayzata Investment Partners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130 Weyerhaeuser Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131 White Creek LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Large Thermal Reserves</u>															
<i>-Federal Entities-</i>															
133 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
135 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
137 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
138 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144 San Diego Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
146 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Contract Reserves</u>															
<i>-Federal Entities-</i>															
148 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continued

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2016 - 2017 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
149 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
151 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
152 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
153 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Capacity Reserves-</i>															
154 Total Hydro Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155 Total Small Thermal & Misc Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156 Total Large Thermal Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157 Total Contract Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158 Total Capacity Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2017 - 2018 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Hydro Reserves															
-Federal Entities-															
1 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-															
4 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Pend Oreille County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-															
17 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Bonners Ferry, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Centralia, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Colville Tribes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Forest Grove, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Idaho Falls Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Kittitas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Lower Valley Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 McMinnville, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Milton-Freewater, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Northern Lights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Northern Wasco County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Soda Springs, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Investor-Owned Entities-															
43 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 PPL Montana, LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Other Entities-															
51 Alcoa Power Generating Inc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2017 - 2018 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
52 Colockum Transmission Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Unknown Entity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 UnKnown PNW Marketer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Warm Springs Power Enterprise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Small Thermal & Misc. Reserves</u>															
<u>-Federal Entities-</u>															
58 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60 U.S. Naval Station, Everett (Jim Creek)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 U.S. Naval Submarine Base, Bangor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Generating Public Entities-</u>															
63 Burbank, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69 Glendale, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72 Los Angeles Dept of Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73 M-S-R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75 Sacramento Municipal Utility District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78 Springfield Utility Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Non-Generating Public Entities-</u>															
82 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Benton County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 Franklin County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91 Klamath Falls, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93 Lakeview L & P (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96 Mason County PUD #3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98 Portland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99 Spokane, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Investor-Owned Entities-</u>															
103 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continued

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Aug
105 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106 Pacific Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Other Entities-															
112 Avista Energy Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113 Boise Cascade Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114 Chehalis Power Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115 Covanta Energy Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116 Frederickson Power LP,	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117 Georgia-Pacific West, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118 Grays Harbor Energy LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119 Hermiston Power Partnership	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120 Iberdrola Renewables	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121 King County Property Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123 Macquarie Cook Power, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124 Mirant Americas Energy Marketing, L.P.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125 Oremet - Wah Chang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Pacific Klamath Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127 SP Newsprint	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129 Wayzata Investment Partners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130 Weyerhaeuser Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131 White Creek LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Large Thermal Reserves</u>															
-Federal Entities-															
133 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-															
135 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-															
137 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Investor-Owned Entities-															
138 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Pacific Power	0	0	0												

Continued

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2017 - 2018 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
149 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
151 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
152 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
153 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Capacity Reserves-</i>															
154 Total Hydro Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155 Total Small Thermal & Misc Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156 Total Large Thermal Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157 Total Contract Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158 Total Capacity Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2018 - 2019 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Hydro Reserves															
-Federal Entities-															
1 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Generating Public Entities-															
4 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Pend Oreille County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Non-Generating Public Entities-															
17 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Bonners Ferry, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Centralia, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Colville Tribes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Forest Grove, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Idaho Falls Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Kittitas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Lower Valley Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 McMinnville, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Milton-Freewater, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Northern Lights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Northern Wasco County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Soda Springs, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Investor-Owned Entities-															
43 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47 PPL Montana, LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Other Entities-															
51 Alcoa Power Generating Inc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2018 - 2019 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
52 Colockum Transmission Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Unknown Entity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55 UnKnown PNW Marketer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 Warm Springs Power Enterprise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Small Thermal & Misc. Reserves</u>															
<u>-Federal Entities-</u>															
58 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59 Mission Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60 U.S. Naval Station, Everett (Jim Creek)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 U.S. Naval Submarine Base, Bangor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Generating Public Entities-</u>															
63 Burbank, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64 Chelan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Clark County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66 Cowlitz County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Douglas County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68 Eugene Water & Electric Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69 Glendale, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70 Grant County PUD #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Grays Harbor PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72 Los Angeles Dept of Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73 M-S-R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74 Okanogan County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75 Sacramento Municipal Utility District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77 Snohomish County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78 Springfield Utility Board	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79 Tacoma Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Non-Generating Public Entities-</u>															
82 Ashland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83 Benton County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84 Clallam County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85 Clatskanie PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86 Consumers Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87 Emerald County PUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88 Energy Northwest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89 Fall River Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 Franklin County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91 Klamath Falls, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Klickitat County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93 Lakeview L & P (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94 Lewis County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95 Mason County PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96 Mason County PUD #3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97 Oregon Trail Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98 Portland, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99 Spokane, City of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Tanner Elec Coop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101 Tillamook PUD #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>-Investor-Owned Entities-</u>															
103 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-17: Regional Capacity Reserves
PNW Loads and Resource Study
2018 - 2019 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
105 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106 Pacific Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Utah Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
112 Avista Energy Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113 Boise Cascade Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114 Chehalis Power Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115 Covanta Energy Corporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116 Frederickson Power LP,	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117 Georgia-Pacific West, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118 Grays Harbor Energy LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119 Hermiston Power Partnership	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120 Iberdrola Renewables	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121 King County Property Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122 Longview Fibre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123 Macquarie Cook Power, Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124 Mirant Americas Energy Marketing, L.P.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125 Oremet - Wah Chang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Pacific Klamath Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127 SP Newsprint	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129 Wayzata Investment Partners	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130 Weyerhaeuser Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131 White Creek LLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Large Thermal Reserves</u>															
<i>-Federal Entities-</i>															
133 BPA - Power Business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
135 Turlock Irrigation District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
137 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
138 Avista Corp (WWP Division)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139 Idaho Power Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140 Northwestern Energy LLC (MPC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142 Portland General Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143 Puget Sound Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144 San Diego Gas & Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
146 TransAlta Energy Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Contract Reserves</u>															
<i>-Federal Entities-</i>															
148 Total Federal Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continued

Table A-17: Regional Capacity Reserves
 PNW Loads and Resource Study
 2018 - 2019 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
149 Seattle City Light	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150 Total Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Non-Generating Public Entities-</i>															
151 Total Non-Generating Public Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Investor-Owned Entities-</i>															
152 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
153 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Total Capacity Reserves-</i>															
154 Total Hydro Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155 Total Small Thermal & Misc Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156 Total Large Thermal Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157 Total Contract Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158 Total Capacity Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Table A-18
Wells & Chelan Allocation
Monthly OY 2010 – 2019
Capacity in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-18: Wells and Chelan Allocation
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wells-															
1 Wells	477	377	310	374	474	436	476	399	347	207	271	413	368	406	389
2 Wells Before Enc	477	377	310	374	474	436	476	399	347	207	271	413	368	406	389
-Wells-															
3 AVWP Share	14	11	9.0	11	14	13	14	12	10	5.7	7.7	12	11	12	12
4 COLV Share	19	15	12	15	19	18	19	16	14	7.7	10	16	15	16	16
5 DOPD Share	123	95	77	95	122	112	123	102	87	49	66	105	93	103	99
6 OKPD Share	33	25	21	25	33	30	33	27	23	13	18	28	25	27	26
7 PGE Share	83	64	52	64	83	76	83	69	59	33	45	71	63	70	67
8 PPL Share	28	22	18	22	28	26	28	23	20	11	15	24	21	24	23
9 PSE Share	128	99	80	99	128	117	128	106	91	51	69	110	97	108	103
10 Wells After Enc	429	332	269	330	427	390	428	354	304	170	231	366	325	360	345
-Chelan-															
11 Chelan	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
12 Chelan Before Enc	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
-Chelan-															
13 CHPD Share	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
14 Chelan After Enc	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42

Table A-18: Wells and Chelan Allocation
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wells-															
1 Wells	477	377	310	374	474	436	476	399	347	207	271	413	368	406	389
2 Wells Before Enc	477	377	310	374	474	436	476	399	347	207	271	413	368	406	389
-Wells-															
3 AVWP Share	14	11	9.0	11	14	13	14	12	10	5.7	7.7	12	11	12	12
4 COLV Share	19	15	12	15	19	18	19	16	14	7.7	10	16	15	16	16
5 DOPD Share	123	95	77	95	122	112	123	102	87	49	66	105	93	103	99
6 OKPD Share	33	25	21	25	33	30	33	27	23	13	18	28	25	27	26
7 PGE Share	83	64	52	64	83	76	83	69	59	33	45	71	63	70	67
8 PPL Share	28	22	18	22	28	26	28	23	20	11	15	24	21	24	23
9 PSE Share	128	99	80	99	128	117	128	106	91	51	69	110	97	108	103
10 Wells After Enc	429	332	269	330	427	390	428	354	304	170	231	366	325	360	345
-Chelan-															
11 Chelan	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
12 Chelan Before Enc	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
-Chelan-															
13 CHPD Share	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
14 Chelan After Enc	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42

Table A-18: Wells and Chelan Allocation
 PNW Loads and Resource Study
 2011 - 2012 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wells-															
1 Wells	477	377	310	374	474	436	476	399	347	207	271	413	368	406	389
2 Wells Before Enc	477	377	310	374	474	436	476	399	347	207	271	413	368	406	389
-Wells-															
3 AVWP Share	14	11	9.0	11	14	13	14	12	10	5.7	7.7	12	11	12	12
4 COLV Share	19	15	12	15	19	18	19	16	14	7.7	10	16	15	16	16
5 DOPD Share	123	95	77	95	122	112	123	102	87	49	66	105	93	103	99
6 OKPD Share	33	25	21	25	33	30	33	27	23	13	18	28	25	27	26
7 PGE Share	83	64	52	64	83	76	83	69	59	33	45	71	63	70	67
8 PPL Share	28	22	18	22	28	26	28	23	20	11	15	24	21	24	23
9 PSE Share	128	99	80	99	128	117	128	106	91	51	69	110	97	108	103
10 Wells After Enc	429	332	269	330	427	390	428	354	304	170	231	366	325	360	345
-Chelan-															
11 Chelan	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
12 Chelan Before Enc	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
-Chelan-															
13 CHPD Share	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
14 Chelan After Enc	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42

Table A-18: Wells and Chelan Allocation
 PNW Loads and Resource Study
 2012 - 2013 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wells-															
1 Wells	477	377	310	374	474	436	476	399	347	207	271	413	368	406	389
2 Wells Before Enc	477	377	310	374	474	436	476	399	347	207	271	413	368	406	389
-Wells-															
3 AVWP Share	14	11	9.0	11	14	13	14	12	10	5.7	7.7	12	11	12	12
4 COLV Share	19	15	12	15	19	18	19	16	14	7.7	10	16	15	16	16
5 DOPD Share	123	95	77	95	122	112	123	102	87	49	66	105	93	103	99
6 OKPD Share	33	25	21	25	33	30	33	27	23	13	18	28	25	27	26
7 PGE Share	83	64	52	64	83	76	83	69	59	33	45	71	63	70	67
8 PPL Share	28	22	18	22	28	26	28	23	20	11	15	24	21	24	23
9 PSE Share	128	99	80	99	128	117	128	106	91	51	69	110	97	108	103
10 Wells After Enc	429	332	269	330	427	390	428	354	304	170	231	366	325	360	345
-Chelan-															
11 Chelan	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
12 Chelan Before Enc	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
-Chelan-															
13 CHPD Share	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
14 Chelan After Enc	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42

Table A-18: Wells and Chelan Allocation
 PNW Loads and Resource Study
 2013 - 2014 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wells-															
1 Wells	477	377	310	374	474	442	476	399	347	193	271	413	368	406	389
2 Wells Before Enc	477	377	310	374	474	442	476	399	347	193	271	413	368	406	389
-Wells-															
3 AVWP Share	14	11	9.0	11	14	13	14	12	10	5.2	7.7	12	11	12	12
4 COLV Share	19	15	12	15	19	18	19	16	14	7	10	16	15	16	16
5 DOPD Share	123	95	77	95	122	113	123	102	87	45	66	105	93	103	99
6 OKPD Share	33	25	21	25	33	30	33	27	23	12	18	28	25	27	26
7 PGE Share	83	64	52	64	83	77	83	69	59	30	45	71	63	70	67
8 PPL Share	28	22	18	22	28	26	28	23	20	10	15	24	21	24	23
9 PSE Share	128	99	80	99	128	118	128	106	91	47	69	110	97	108	103
10 Wells After Enc	429	332	269	330	427	396	428	354	304	156	231	366	325	360	345
-Chelan-															
11 Chelan	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
12 Chelan Before Enc	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
-Chelan-															
13 CHPD Share	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
14 Chelan After Enc	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42

Table A-18: Wells and Chelan Allocation
 PNW Loads and Resource Study
 2014 - 2015 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wells-															
1 Wells	477	377	310	374	474	462	476	399	347	142	271	413	368	406	389
2 Wells Before Enc	477	377	310	374	474	462	476	399	347	142	271	413	368	406	389
-Wells-															
3 AVWP Share	14	11	9.0	11	14	14	14	12	10	3.7	7.7	12	11	12	12
4 COLV Share	19	15	12	15	19	19	19	16	14	5.0	10	16	15	16	16
5 DOPD Share	123	95	77	95	122	119	123	102	87	32	66	105	93	103	99
6 OKPD Share	33	25	21	25	33	32	33	27	23	8.4	18	28	25	27	26
7 PGE Share	83	64	52	64	83	81	83	69	59	21	45	71	63	70	67
8 PPL Share	28	22	18	22	28	27	28	23	20	7.2	15	24	21	24	23
9 PSE Share	128	99	80	99	128	124	128	106	91	33	69	110	97	108	103
10 Wells After Enc	429	332	269	330	427	415	428	354	304	110	231	366	325	360	345
-Chelan-															
11 Chelan	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
12 Chelan Before Enc	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
-Chelan-															
13 CHPD Share	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
14 Chelan After Enc	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42

Table A-18: Wells and Chelan Allocation
 PNW Loads and Resource Study
 2015 - 2016 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wells-															
1 Wells	477	377	310	374	474	442	476	399	347	193	271	413	368	406	389
2 Wells Before Enc	477	377	310	374	474	442	476	399	347	193	271	413	368	406	389
-Wells-															
3 AVWP Share	14	11	9.0	11	14	13	14	12	10	5.2	7.7	12	11	12	12
4 COLV Share	19	15	12	15	19	18	19	16	14	7	10	16	15	16	16
5 DOPD Share	123	95	77	95	122	113	123	102	87	45	66	105	93	103	99
6 OKPD Share	33	25	21	25	33	30	33	27	23	12	18	28	25	27	26
7 PGE Share	83	64	52	64	83	77	83	69	59	30	45	71	63	70	67
8 PPL Share	28	22	18	22	28	26	28	23	20	10	15	24	21	24	23
9 PSE Share	128	99	80	99	128	118	128	106	91	47	69	110	97	108	103
10 Wells After Enc	429	332	269	330	427	396	428	354	304	156	231	366	325	360	345
-Chelan-															
11 Chelan	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
12 Chelan Before Enc	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
-Chelan-															
13 CHPD Share	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
14 Chelan After Enc	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42

Table A-18: Wells and Chelan Allocation
 PNW Loads and Resource Study
 2016 - 2017 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wells-															
1 Wells	477	377	310	374	474	462	476	399	347	142	271	413	368	406	389
2 Wells Before Enc	477	377	310	374	474	462	476	399	347	142	271	413	368	406	389
-Wells-															
3 AVWP Share	14	11	9.0	11	14	14	14	12	10	3.7	7.7	12	11	12	12
4 COLV Share	19	15	12	15	19	19	19	16	14	5.0	10	16	15	16	16
5 DOPD Share	123	95	77	95	122	119	123	102	87	32	66	105	93	103	99
6 OKPD Share	33	25	21	25	33	32	33	27	23	8.4	18	28	25	27	26
7 PGE Share	83	64	52	64	83	81	83	69	59	21	45	71	63	70	67
8 PPL Share	28	22	18	22	28	27	28	23	20	7.2	15	24	21	24	23
9 PSE Share	128	99	80	99	128	124	128	106	91	33	69	110	97	108	103
10 Wells After Enc	429	332	269	330	427	415	428	354	304	110	231	366	325	360	345
-Chelan-															
11 Chelan	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
12 Chelan Before Enc	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
-Chelan-															
13 CHPD Share	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
14 Chelan After Enc	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42

Table A-18: Wells and Chelan Allocation
 PNW Loads and Resource Study
 2017 - 2018 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wells-															
1 Wells	477	377	310	374	474	442	476	399	347	193	271	413	368	406	389
2 Wells Before Enc	477	377	310	374	474	442	476	399	347	193	271	413	368	406	389
-Wells-															
3 AVWP Share	14	11	9.0	11	14	13	14	12	10	5.2	7.7	12	11	12	12
4 COLV Share	19	15	12	15	19	18	19	16	14	7	10	16	15	16	16
5 DOPD Share	123	95	77	95	122	113	123	102	87	45	66	105	93	103	99
6 OKPD Share	33	25	21	25	33	30	33	27	23	12	18	28	25	27	26
7 PGE Share	83	64	52	64	83	77	83	69	59	30	45	71	63	70	67
8 PPL Share	28	22	18	22	28	26	28	23	20	10	15	24	21	24	23
9 PSE Share	128	99	80	99	128	118	128	106	91	47	69	110	97	108	103
10 Wells After Enc	429	332	269	330	427	396	428	354	304	156	231	366	325	360	345
-Chelan-															
11 Chelan	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
12 Chelan Before Enc	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
-Chelan-															
13 CHPD Share	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
14 Chelan After Enc	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42

Table A-18: Wells and Chelan Allocation
 PNW Loads and Resource Study
 2018 - 2019 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wells-															
1 Wells	477	377	310	374	474	462	476	399	347	142	271	413	368	406	389
2 Wells Before Enc	477	377	310	374	474	462	476	399	347	142	271	413	368	406	389
-Wells-															
3 AVWP Share	14	11	9.0	11	14	14	14	12	10	3.7	7.7	12	11	12	12
4 COLV Share	19	15	12	15	19	19	19	16	14	5.0	10	16	15	16	16
5 DOPD Share	123	95	77	95	122	119	123	102	87	32	66	105	93	103	99
6 OKPD Share	33	25	21	25	33	32	33	27	23	8.4	18	28	25	27	26
7 PGE Share	83	64	52	64	83	81	83	69	59	21	45	71	63	70	67
8 PPL Share	28	22	18	22	28	27	28	23	20	7.2	15	24	21	24	23
9 PSE Share	128	99	80	99	128	124	128	106	91	33	69	110	97	108	103
10 Wells After Enc	429	332	269	330	427	415	428	354	304	110	231	366	325	360	345
-Chelan-															
11 Chelan	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
12 Chelan Before Enc	54	49	13	44	25	52	51	51	1.2	34	1.2	51	53	54	39
-Chelan-															
13 CHPD Share	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42
14 Chelan After Enc	58	52	16	47	28	55	53	53	4.2	38	5.2	55	57	58	42

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Table A-19
Rocky Reach & Rock Island Allocation
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-19: Rocky Reach and Rock Island Allocation
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Rocky Reach-</i>															
1 Rocky Reach	634	529	400	501	640	594	652	543	458	279	374	490	500	542	519
2 Rocky Reach Before Enc	634	529	400	501	640	594	652	543	458	279	374	490	500	542	519
<i>-Rocky Reach-</i>															
3 APGI Share	150	126	96	119	151	141	154	129	109	67	90	117	119	129	123
4 AVWP Share	19	16	12	15	19	18	19	16	14	8.5	11	15	15	16	16
5 CHPD Share	98	82	63	78	99	92	101	85	72	44	59	77	78	84	81
6 DOPD Share	18	15	11	14	18	17	18	15	13	7.9	11	14	14	15	14
7 PGE Share	79	66	50	63	80	74	81	68	58	36	47	61	62	68	65
8 PPL Share	35	29	22	27	35	32	36	30	25	16	21	27	27	30	28
9 PSE Share	254	213	162	202	256	238	261	219	185	114	152	197	201	217	209
10 Rocky Reach After Enc	652	546	417	519	658	612	672	562	475	293	390	507	516	559	537
<i>-Rock Island PH#1-</i>															
11 Rock Island PH#1	147	132	107	128	149	142	149	134	119	75	101	146	146	144	133
12 Rock Island PH#1 Before Enc	147	132	107	128	149	142	149	134	119	75	101	146	146	144	133
<i>-Rock Island PH#1-</i>															
13 APGI Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 CHPD Share	94	85	71	83	92	89	92	86	78	52	69	93	95	95	85
15 PSE Share	94	85	71	83	92	89	92	86	78	52	69	93	95	95	85
16 Rock Island PH#1 After Enc	188	169	142	165	184	179	184	172	155	104	138	186	190	189	171
<i>-Rock Island PH#2-</i>															
17 Rock Island PH#2	103	108	82	103	140	127	145	113	92	48	59	107	85	76	102
18 Rock Island PH#2 Before Enc	103	108	82	103	140	127	145	113	92	48	59	107	85	76	102
<i>-Rock Island PH#2-</i>															
19 APGI Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 CHPD Share	65	70	54	66	87	80	89	72	60	34	40	68	55	50	66
21 PSE Share	65	70	54	66	87	80	89	72	60	34	40	68	55	50	66
22 Rock Island PH#2 After Enc	131	139	109	133	173	160	179	144	120	67	81	136	111	100	131

Table A-19: Rocky Reach and Rock Island Allocation
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Rocky Reach-</i>															
1 Rocky Reach	634	529	400	501	640	594	652	543	458	279	374	490	500	542	519
2 Rocky Reach Before Enc	634	529	400	501	640	594	652	543	458	279	374	490	500	542	519
<i>-Rocky Reach-</i>															
3 APGI Share	150	126	96	119	151	141	154	129	109	67	90	117	119	129	123
4 AVWP Share	19	16	12	15	19	18	19	16	14	8.5	11	15	15	16	16
5 CHPD Share	98	82	63	78	99	92	101	85	72	44	59	77	78	84	81
6 DOPD Share	18	15	11	14	18	17	18	15	13	7.9	11	14	14	15	14
7 PGE Share	79	66	50	63	80	74	81	68	58	36	47	61	62	68	65
8 PPL Share	35	29	22	27	35	32	36	30	25	16	21	27	27	30	28
9 PSE Share	254	213	162	202	256	238	261	219	185	114	152	197	201	217	209
10 Rocky Reach After Enc	652	546	417	519	658	612	672	562	475	293	390	507	516	559	537
<i>-Rock Island PH#1-</i>															
11 Rock Island PH#1	147	132	107	128	149	142	149	134	119	75	101	146	146	144	133
12 Rock Island PH#1 Before Enc	147	132	107	128	149	142	149	134	119	75	101	146	146	144	133
<i>-Rock Island PH#1-</i>															
13 APGI Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 CHPD Share	94	85	71	83	92	89	92	86	78	52	69	93	95	95	85
15 PSE Share	94	85	71	83	92	89	92	86	78	52	69	93	95	95	85
16 Rock Island PH#1 After Enc	188	169	142	165	184	179	184	172	155	104	138	186	190	189	171
<i>-Rock Island PH#2-</i>															
17 Rock Island PH#2	103	108	82	103	140	127	145	113	92	48	59	107	85	76	102
18 Rock Island PH#2 Before Enc	103	108	82	103	140	127	145	113	92	48	59	107	85	76	102
<i>-Rock Island PH#2-</i>															
19 APGI Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 CHPD Share	65	70	54	66	87	80	89	72	60	34	40	68	55	50	66
21 PSE Share	65	70	54	66	87	80	89	72	60	34	40	68	55	50	66
22 Rock Island PH#2 After Enc	131	139	109	133	173	160	179	144	120	67	81	136	111	100	131

Table A-19: Rocky Reach and Rock Island Allocation
 PNW Loads and Resource Study
 2011 - 2012 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Rocky Reach-															
1 Rocky Reach	634	529	400	501	640	594	652	543	458	279	374	490	500	542	519
2 Rocky Reach Before Enc	634	529	400	501	640	594	652	543	458	279	374	490	500	542	519
-Rocky Reach-															
3 APGI Share	150	126	96	119	181	168	185	154	131	81	107	139	142	145	141
4 AVWP Share	19	16	12	15	0	0	0	0	0	0	0	0	0	0	3.7
5 CHPD Share	98	82	63	78	276	257	282	236	199	123	163	213	217	243	191
6 DOPD Share	18	15	11	14	36	34	37	31	26	16	22	28	29	31	26
7 PGE Share	79	66	50	63	0	0	0	0	0	0	0	0	0	0	16
8 PPL Share	35	29	22	27	0	0	0	0	0	0	0	0	0	0	6.8
9 PSE Share	254	213	162	202	165	153	168	140	119	73	97	127	129	140	152
10 Rocky Reach After Enc	652	546	417	519	658	612	672	562	475	293	390	507	516	559	537
-Rock Island PH#1-															
11 Rock Island PH#1	147	132	107	128	149	142	149	134	119	75	101	146	146	144	133
12 Rock Island PH#1 Before Enc	147	132	107	128	149	142	149	134	119	75	101	146	146	144	133
-Rock Island PH#1-															
13 APGI Share	0	0	0	0	0	0	0	0	0	0	0	0	0	49	4.2
14 CHPD Share	94	85	71	83	92	89	92	86	78	52	69	93	95	93	85
15 PSE Share	94	85	71	83	92	89	92	86	78	52	69	93	95	47	81
16 Rock Island PH#1 After Enc	188	169	142	165	184	179	184	172	155	104	138	186	190	189	171
-Rock Island PH#2-															
17 Rock Island PH#2	103	108	82	103	140	127	145	113	92	48	59	107	85	76	103
18 Rock Island PH#2 Before Enc	103	108	82	103	140	127	145	113	92	48	59	107	85	76	103
-Rock Island PH#2-															
19 APGI Share	0	0	0	0	0	0	0	0	0	0	0	0	0	26	2.2
20 CHPD Share	65	70	54	66	87	80	89	72	60	34	40	68	55	49	66
21 PSE Share	65	70	54	66	87	80	89	72	60	34	40	68	55	25	64
22 Rock Island PH#2 After Enc	131	139	109	133	173	160	179	144	120	67	81	136	111	100	131

Table A-19: Rocky Reach and Rock Island Allocation
 PNW Loads and Resource Study
 2012 - 2013 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Rocky Reach-															
1 Rocky Reach	634	529	400	501	640	594	652	543	458	279	374	490	500	542	519
2 Rocky Reach Before Enc	634	529	400	501	640	594	652	543	458	279	374	490	500	542	519
-Rocky Reach-															
3 APGI Share	169	142	108	135	171	159	175	146	124	76	101	132	134	145	140
4 AVWP Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 CHPD Share	283	237	181	225	286	266	292	244	207	128	169	220	224	243	233
6 DOPD Share	36	30	23	29	36	34	37	31	26	16	22	28	29	31	30
7 PGE Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 PPL Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 PSE Share	163	137	104	130	165	153	168	140	119	73	97	127	129	140	134
10 Rocky Reach After Enc	652	546	417	519	658	612	672	562	475	293	390	507	516	559	537
-Rock Island PH#1-															
11 Rock Island PH#1	147	132	107	128	149	142	149	134	119	75	101	146	146	144	133
12 Rock Island PH#1 Before Enc	147	132	107	128	149	142	149	134	119	75	101	146	146	144	133
-Rock Island PH#1-															
13 APGI Share	49	44	37	43	48	46	48	45	40	27	36	48	49	49	44
14 CHPD Share	92	83	70	81	90	88	90	84	76	51	68	91	93	93	84
15 PSE Share	47	42	36	41	46	45	46	43	39	26	34	47	48	47	43
16 Rock Island PH#1 After Enc	188	169	142	165	184	179	184	172	155	104	138	186	190	189	171
-Rock Island PH#2-															
17 Rock Island PH#2	103	108	82	103	140	127	145	113	92	48	59	107	85	76	102
18 Rock Island PH#2 Before Enc	103	108	82	103	140	127	145	113	92	48	59	107	85	76	102
-Rock Island PH#2-															
19 APGI Share	34	36	28	35	45	42	47	38	31	17	21	35	29	26	34
20 CHPD Share	64	68	53	65	85	78	88	71	59	33	40	67	54	49	64
21 PSE Share	33	35	27	33	43	40	45	36	30	17	20	34	28	25	33
22 Rock Island PH#2 After Enc	131	139	109	133	173	160	179	144	120	67	81	136	111	100	131

Table A-19: Rocky Reach and Rock Island Allocation
 PNW Loads and Resource Study
 2013 - 2014 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Rocky Reach-															
1 Rocky Reach	634	529	400	501	640	602	652	543	458	261	374	490	500	542	519
2 Rocky Reach Before Enc	634	529	400	501	640	602	652	543	458	261	374	490	500	542	519
-Rocky Reach-															
3 APGI Share	169	142	108	135	171	161	175	146	124	71	101	132	134	145	139
4 AVWP Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 CHPD Share	283	237	181	225	286	269	292	244	207	119	169	220	224	243	233
6 DOPD Share	36	30	23	29	36	34	37	31	26	15	22	28	29	31	30
7 PGE Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 PPL Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 PSE Share	163	137	104	130	165	155	168	140	119	69	97	127	129	140	134
10 Rocky Reach After Enc	652	546	417	519	658	620	672	562	475	274	390	507	516	559	536
-Rock Island PH#1-															
11 Rock Island PH#1	147	132	107	128	149	143	149	134	119	70	101	146	146	144	133
12 Rock Island PH#1 Before Enc	147	132	107	128	149	143	149	134	119	70	101	146	146	144	133
-Rock Island PH#1-															
13 APGI Share	49	44	37	43	48	47	48	45	40	26	36	48	49	49	44
14 CHPD Share	92	83	70	81	90	88	90	84	76	48	68	91	93	93	84
15 PSE Share	47	42	36	41	46	45	46	43	39	25	34	47	48	47	43
16 Rock Island PH#1 After Enc	188	169	142	165	184	180	184	172	155	98	138	186	190	189	170
-Rock Island PH#2-															
17 Rock Island PH#2	103	108	82	103	140	129	145	113	92	46	59	107	85	76	103
18 Rock Island PH#2 Before Enc	103	108	82	103	140	129	145	113	92	46	59	107	85	76	103
-Rock Island PH#2-															
19 APGI Share	34	36	28	35	45	42	47	38	31	17	21	35	29	26	34
20 CHPD Share	64	68	53	65	85	79	88	71	59	32	40	67	54	49	64
21 PSE Share	33	35	27	33	43	41	45	36	30	16	20	34	28	25	33
22 Rock Island PH#2 After Enc	131	139	109	133	173	162	179	144	120	64	81	136	111	100	131

Table A-19: Rocky Reach and Rock Island Allocation
PNW Loads and Resource Study
2014 - 2015 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Rocky Reach-															
1 Rocky Reach	634	529	400	501	640	631	652	543	458	195	374	490	500	542	519
2 Rocky Reach Before Enc	634	529	400	501	640	631	652	543	458	195	374	490	500	542	519
-Rocky Reach-															
3 APGI Share	169	142	108	135	171	169	175	146	124	53	101	132	134	145	139
4 AVWP Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 CHPD Share	283	237	181	225	286	282	292	244	207	89	169	220	224	243	233
6 DOPD Share	36	30	23	29	36	36	37	31	26	11	22	28	29	31	30
7 PGE Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 PPL Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 PSE Share	163	137	104	130	165	162	168	140	119	51	97	127	129	140	134
10 Rocky Reach After Enc	652	546	417	519	658	649	672	562	475	205	390	507	516	559	536
-Rock Island PH#1-															
11 Rock Island PH#1	147	132	107	128	149	147	149	134	119	54	101	146	146	144	132
12 Rock Island PH#1 Before Enc	147	132	107	128	149	147	149	134	119	54	101	146	146	144	132
-Rock Island PH#1-															
13 APGI Share	49	44	37	43	48	48	48	45	40	20	36	48	49	49	44
14 CHPD Share	92	83	70	81	90	90	90	84	76	37	68	91	93	93	83
15 PSE Share	47	42	36	41	46	46	46	43	39	19	34	47	48	47	42
16 Rock Island PH#1 After Enc	188	169	142	165	184	183	184	172	155	75	138	186	190	189	170
-Rock Island PH#2-															
17 Rock Island PH#2	103	108	82	103	140	137	145	113	92	39	59	107	85	76	103
18 Rock Island PH#2 Before Enc	103	108	82	103	140	137	145	113	92	39	59	107	85	76	103
-Rock Island PH#2-															
19 APGI Share	34	36	28	35	45	44	47	38	31	14	21	35	29	26	34
20 CHPD Share	64	68	53	65	85	84	88	71	59	26	40	67	54	49	64
21 PSE Share	33	35	27	33	43	43	45	36	30	13	20	34	28	25	33
22 Rock Island PH#2 After Enc	131	139	109	133	173	170	179	144	120	54	81	136	111	100	132

Table A-19: Rocky Reach and Rock Island Allocation
 PNW Loads and Resource Study
 2015 - 2016 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Rocky Reach-</i>															
1 Rocky Reach	634	529	400	501	640	602	652	543	458	261	374	490	500	542	519
2 Rocky Reach Before Enc	634	529	400	501	640	602	652	543	458	261	374	490	500	542	519
<i>-Rocky Reach-</i>															
3 APGI Share	169	142	108	135	171	161	175	146	124	71	101	132	134	145	140
4 AVWP Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 CHPD Share	283	237	181	225	286	269	292	244	207	119	169	220	224	243	233
6 DOPD Share	36	30	23	29	36	34	37	31	26	15	22	28	29	31	30
7 PGE Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 PPL Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 PSE Share	163	137	104	130	165	155	168	140	119	69	97	127	129	140	134
10 Rocky Reach After Enc	652	546	417	519	658	620	672	562	475	274	390	507	516	559	537
<i>-Rock Island PH#1-</i>															
11 Rock Island PH#1	147	132	107	128	149	143	149	134	119	70	101	146	146	144	133
12 Rock Island PH#1 Before Enc	147	132	107	128	149	143	149	134	119	70	101	146	146	144	133
<i>-Rock Island PH#1-</i>															
13 APGI Share	49	44	37	43	48	47	48	45	40	26	36	48	49	49	44
14 CHPD Share	92	83	70	81	90	88	90	84	76	48	68	91	93	93	84
15 PSE Share	47	42	36	41	46	45	46	43	39	25	34	47	48	47	43
16 Rock Island PH#1 After Enc	188	169	142	165	184	180	184	172	155	98	138	186	190	189	170
<i>-Rock Island PH#2-</i>															
17 Rock Island PH#2	103	108	82	103	140	129	145	113	92	46	59	107	85	76	103
18 Rock Island PH#2 Before Enc	103	108	82	103	140	129	145	113	92	46	59	107	85	76	103
<i>-Rock Island PH#2-</i>															
19 APGI Share	34	36	28	35	45	42	47	38	31	17	21	35	29	26	34
20 CHPD Share	64	68	53	65	85	79	88	71	59	32	40	67	54	49	64
21 PSE Share	33	35	27	33	43	41	45	36	30	16	20	34	28	25	33
22 Rock Island PH#2 After Enc	131	139	109	133	173	162	179	144	120	64	81	136	111	100	131

Table A-19: Rocky Reach and Rock Island Allocation
 PNW Loads and Resource Study
 2016 - 2017 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Rocky Reach-															
1 Rocky Reach	634	529	400	501	640	631	652	543	458	195	374	490	500	542	519
2 Rocky Reach Before Enc	634	529	400	501	640	631	652	543	458	195	374	490	500	542	519
-Rocky Reach-															
3 APGI Share	169	142	108	135	171	169	175	146	124	53	101	132	134	145	139
4 AVWP Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 CHPD Share	283	237	181	225	286	282	292	244	207	89	169	220	224	243	233
6 DOPD Share	36	30	23	29	36	36	37	31	26	11	22	28	29	31	30
7 PGE Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 PPL Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 PSE Share	163	137	104	130	165	162	168	140	119	51	97	127	129	140	134
10 Rocky Reach After Enc	652	546	417	519	658	649	672	562	475	205	390	507	516	559	536
-Rock Island PH#1-															
11 Rock Island PH#1	147	132	107	128	149	147	149	134	119	54	101	146	146	144	132
12 Rock Island PH#1 Before Enc	147	132	107	128	149	147	149	134	119	54	101	146	146	144	132
-Rock Island PH#1-															
13 APGI Share	49	44	37	43	48	48	48	45	40	20	36	48	49	49	44
14 CHPD Share	92	83	70	81	90	90	90	84	76	37	68	91	93	93	83
15 PSE Share	47	42	36	41	46	46	46	43	39	19	34	47	48	47	42
16 Rock Island PH#1 After Enc	188	169	142	165	184	183	184	172	155	75	138	186	190	189	170
-Rock Island PH#2-															
17 Rock Island PH#2	103	108	82	103	140	137	145	113	92	39	59	107	85	76	103
18 Rock Island PH#2 Before Enc	103	108	82	103	140	137	145	113	92	39	59	107	85	76	103
-Rock Island PH#2-															
19 APGI Share	34	36	28	35	45	44	47	38	31	14	21	35	29	26	34
20 CHPD Share	64	68	53	65	85	84	88	71	59	26	40	67	54	49	64
21 PSE Share	33	35	27	33	43	43	45	36	30	13	20	34	28	25	33
22 Rock Island PH#2 After Enc	131	139	109	133	173	170	179	144	120	54	81	136	111	100	132

Table A-19: Rocky Reach and Rock Island Allocation
PNW Loads and Resource Study
2017 - 2018 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Rocky Reach-															
1 Rocky Reach	634	529	400	501	640	602	652	543	458	261	374	490	500	542	519
2 Rocky Reach Before Enc	634	529	400	501	640	602	652	543	458	261	374	490	500	542	519
-Rocky Reach-															
3 APGI Share	169	142	108	135	171	161	175	146	124	71	101	132	134	145	139
4 AVWP Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 CHPD Share	283	237	181	225	286	269	292	244	207	119	169	220	224	243	233
6 DOPD Share	36	30	23	29	36	34	37	31	26	15	22	28	29	31	30
7 PGE Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 PPL Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 PSE Share	163	137	104	130	165	155	168	140	119	69	97	127	129	140	134
10 Rocky Reach After Enc	652	546	417	519	658	620	672	562	475	274	390	507	516	559	536
-Rock Island PH#1-															
11 Rock Island PH#1	147	132	107	128	149	143	149	134	119	70	101	146	146	144	133
12 Rock Island PH#1 Before Enc	147	132	107	128	149	143	149	134	119	70	101	146	146	144	133
-Rock Island PH#1-															
13 APGI Share	49	44	37	43	48	47	48	45	40	26	36	48	49	49	44
14 CHPD Share	92	83	70	81	90	88	90	84	76	48	68	91	93	93	84
15 PSE Share	47	42	36	41	46	45	46	43	39	25	34	47	48	47	43
16 Rock Island PH#1 After Enc	188	169	142	165	184	180	184	172	155	98	138	186	190	189	170
-Rock Island PH#2-															
17 Rock Island PH#2	103	108	82	103	140	129	145	113	92	46	59	107	85	76	103
18 Rock Island PH#2 Before Enc	103	108	82	103	140	129	145	113	92	46	59	107	85	76	103
-Rock Island PH#2-															
19 APGI Share	34	36	28	35	45	42	47	38	31	17	21	35	29	26	34
20 CHPD Share	64	68	53	65	85	79	88	71	59	32	40	67	54	49	64
21 PSE Share	33	35	27	33	43	41	45	36	30	16	20	34	28	25	33
22 Rock Island PH#2 After Enc	131	139	109	133	173	162	179	144	120	64	81	136	111	100	131

Table A-19: Rocky Reach and Rock Island Allocation
 PNW Loads and Resource Study
 2018 - 2019 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Rocky Reach-															
1 Rocky Reach	634	529	400	501	640	631	652	543	458	195	374	490	500	542	519
2 Rocky Reach Before Enc	634	529	400	501	640	631	652	543	458	195	374	490	500	542	519
-Rocky Reach-															
3 APGI Share	169	142	108	135	171	169	175	146	124	53	101	132	134	145	139
4 AVWP Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 CHPD Share	283	237	181	225	286	282	292	244	207	89	169	220	224	243	233
6 DOPD Share	36	30	23	29	36	36	37	31	26	11	22	28	29	31	30
7 PGE Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 PPL Share	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 PSE Share	163	137	104	130	165	162	168	140	119	51	97	127	129	140	134
10 Rocky Reach After Enc	652	546	417	519	658	649	672	562	475	205	390	507	516	559	536
-Rock Island PH#1-															
11 Rock Island PH#1	147	132	107	128	149	147	149	134	119	54	101	146	146	144	132
12 Rock Island PH#1 Before Enc	147	132	107	128	149	147	149	134	119	54	101	146	146	144	132
-Rock Island PH#1-															
13 APGI Share	49	44	37	43	48	48	48	45	40	20	36	48	49	49	44
14 CHPD Share	92	83	70	81	90	90	90	84	76	37	68	91	93	93	83
15 PSE Share	47	42	36	41	46	46	46	43	39	19	34	47	48	47	42
16 Rock Island PH#1 After Enc	188	169	142	165	184	183	184	172	155	75	138	186	190	189	170
-Rock Island PH#2-															
17 Rock Island PH#2	103	108	82	103	140	137	145	113	92	39	59	107	85	76	103
18 Rock Island PH#2 Before Enc	103	108	82	103	140	137	145	113	92	39	59	107	85	76	103
-Rock Island PH#2-															
19 APGI Share	34	36	28	35	45	44	47	38	31	14	21	35	29	26	34
20 CHPD Share	64	68	53	65	85	84	88	71	59	26	40	67	54	49	64
21 PSE Share	33	35	27	33	43	43	45	36	30	13	20	34	28	25	33
22 Rock Island PH#2 After Enc	131	139	109	133	173	170	179	144	120	54	81	136	111	100	132

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Table A-20
Wanapum & Priest Rapids Allocation
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-20: Wanapum and Priest Rapids Allocation
PNW Loads and Resource Study
2009 - 2010 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wanapum-															
1 Wanapum	484	384	334	421	552	523	576	472	393	220	194	415	416	404	429
2 Wanapum Before Enc	484	384	334	421	552	523	576	472	393	220	194	415	416	404	429
-Wanapum-															
3 AVWP Share	34	26	22	29	26	24	19	15	12	6.4	4.9	13	13	13	18
4 COPD Share	11	8.4	7.2	9.4	8.6	8	9.0	7.1	5.8	3	2.3	6.1	6.1	5.9	7.2
5 EWEB Share	9.4	7.2	6.2	8	2.8	2.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	2.6
6 FGRV Share	2.9	2.2	1.9	2.4	2	1.9	2.1	1.7	1.4	0.7	0.5	1.4	1.4	1.4	1.7
7 GCPD Share	150	114	98	128	232	217	310	246	200	103	80	210	211	203	190
8 KITT Share	0	0	0	0	0.7	0.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	0.4
9 MCMN Share	2.9	2.2	1.9	2.4	2	1.9	2.1	1.7	1.4	0.7	0.5	1.4	1.4	1.4	1.7
10 MTRF Share	2.9	2.2	1.9	2.4	2	1.9	2.1	1.7	1.4	0.7	0.5	1.4	1.4	1.4	1.7
11 PGE Share	77	58	50	65	55	52	43	34	28	14	11	29	30	28	41
12 PNWMkr Share	0	0	0	0	101	94	102	81	66	34	26	69	69	67	56
13 PPL Share	77	58	50	65	23	21	5.6	4.4	3.6	1.9	1.4	3.8	3.8	3.7	21
14 PSE Share	44	34	29	38	13	12	3.2	2.6	2.1	1.1	0.8	2.2	2.2	2.1	12
15 SCL Share	0	0	0	0	5.6	5.3	1.4	1.1	0.9	0.5	0.4	0.9	0.9	0.9	1.4
16 TPU Share	0	0	0	0	5.7	5.3	1.5	1.2	0.9	0.5	0.4	1.0	1.0	1.0	1.5
17 Wanapum After Enc	411	312	268	350	479	449	502	399	324	168	130	341	343	330	358
-Priest Rapids-															
18 Priest Rapids	353	353	338	420	536	511	558	463	390	236	120	199	259	310	376
19 Priest Rapids Before Enc	353	353	338	420	536	511	558	463	390	236	120	199	259	310	376
-Priest Rapids-															
20 AVWP Share	11	11	11	13	28	27	21	17	14	8.5	4.0	6.9	9.2	11	15
21 COPD Share	5.1	5.1	4.9	6.1	9.3	8.9	9.7	8.0	6.7	4.0	1.9	3.3	4.3	5.3	6.2
22 EWEB Share	0.4	0.4	0.4	0.5	3.1	2.9	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.9
23 FGRV Share	1.2	1.2	1.1	1.4	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
24 GCPD Share	208	209	200	251	251	239	334	276	231	138	65	113	149	181	211
25 KITT Share	0.9	0.9	0.9	1.1	0.7	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.6
26 MCMN Share	1.2	1.2	1.1	1.4	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
27 MTRF Share	1.2	1.2	1.1	1.4	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
28 PGE Share	22	22	21	26	60	57	47	39	32	19	9.1	16	21	25	32
29 PNWMkr Share	76	76	73	92	109	104	110	91	76	45	21	37	49	59	76
30 PPL Share	3.2	3.2	3	3.8	25	24	6	5.0	4.2	2.5	1.2	2	2.7	3.3	7.0
31 PSE Share	1.8	1.8	1.7	2.2	14	14	3.5	2.9	2.4	1.4	0.7	1.2	1.5	1.9	4
32 SCL Share	1.8	1.8	1.7	2.2	6.1	5.8	1.5	1.2	1	0.6	0.3	0.5	0.7	0.8	2.0
33 TPU Share	1.9	2.0	1.9	2.3	6.1	5.8	1.6	1.3	1.1	0.6	0.3	0.5	0.7	0.9	2.1
34 Priest Rapids After Enc	336	337	323	404	520	495	542	447	375	223	105	183	242	293	360

Table A-20: Wanapum and Priest Rapids Allocation
PNW Loads and Resource Study
2010 - 2011 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wanapum-															
1 Wanapum	484	384	334	421	552	523	576	472	393	220	194	415	416	404	429
2 Wanapum Before Enc	484	384	334	421	552	523	576	472	393	220	194	415	416	404	429
-Wanapum-															
3 AVWP Share	16	12	10	13	18	17	19	15	12	6.4	4.9	13	13	13	14
4 COPD Share	7.3	5.6	4.8	6.3	8.6	8	9.0	7.1	5.8	3	2.3	6.1	6.1	5.9	6.4
5 EWEB Share	0.6	0.4	0.4	0.5	0.7	0.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	0.5
6 FGRV Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.7	0.5	1.4	1.4	1.4	1.5
7 GCPD Share	253	192	165	216	295	277	310	246	200	103	80	210	211	203	221
8 KITT Share	0.6	0.4	0.4	0.5	0.7	0.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	0.5
9 MCMN Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.7	0.5	1.4	1.4	1.4	1.5
10 MTRF Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.7	0.5	1.4	1.4	1.4	1.5
11 PGE Share	35	27	23	30	41	39	43	34	28	14	11	29	30	28	31
12 PNWMkr Share	83	63	54	71	97	91	102	81	66	34	26	69	69	67	73
13 PPL Share	4.6	3.5	3.0	3.9	5.3	5.0	5.6	4.4	3.6	1.9	1.4	3.8	3.8	3.7	4.0
14 PSE Share	2.6	2.0	1.7	2.2	3.1	2.9	3.2	2.6	2.1	1.1	0.8	2.2	2.2	2.1	2.3
15 SCL Share	1.1	0.8	0.7	0.9	1.3	1.2	1.4	1.1	0.9	0.5	0.4	0.9	0.9	0.9	1.0
16 TPU Share	1.2	0.9	0.8	1	1.4	1.3	1.5	1.2	0.9	0.5	0.4	1.0	1.0	1.0	1
17 Wanapum After Enc	411	312	268	350	479	449	502	399	324	168	130	341	343	330	358
-Priest Rapids-															
18 Priest Rapids	353	353	338	420	536	511	558	463	390	236	120	199	259	310	376
19 Priest Rapids Before Enc	353	353	338	420	536	511	558	463	390	236	120	199	259	310	376
-Priest Rapids-															
20 AVWP Share	13	13	12	15	20	19	21	17	14	8.5	4.0	6.9	9.2	11	14
21 COPD Share	6	6	5.8	7.2	9.3	8.9	9.7	8.0	6.7	4.0	1.9	3.3	4.3	5.3	6.4
22 EWEB Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.5
23 FGRV Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
24 GCPD Share	207	208	199	249	320	305	334	276	231	138	65	113	149	181	222
25 KITT Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.5
26 MCMN Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
27 MTRF Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
28 PGE Share	29	29	28	35	45	43	47	39	32	19	9.1	16	21	25	31
29 PNWMkr Share	68	68	66	82	105	100	110	91	76	45	21	37	49	59	73
30 PPL Share	3.7	3.7	3.6	4.5	5.8	5.5	6	5.0	4.2	2.5	1.2	2	2.7	3.3	4.0
31 PSE Share	2.2	2.2	2.1	2.6	3.3	3.2	3.5	2.9	2.4	1.4	0.7	1.2	1.5	1.9	2.3
32 SCL Share	0.9	0.9	0.9	1.1	1.4	1.3	1.5	1.2	1	0.6	0.3	0.5	0.7	0.8	1.0
33 TPU Share	1.0	1.0	0.9	1.2	1.5	1.4	1.6	1.3	1.1	0.6	0.3	0.5	0.7	0.9	1
34 Priest Rapids After Enc	336	337	323	404	520	495	542	447	375	223	105	183	242	293	360

Table A-20: Wanapum and Priest Rapids Allocation
 PNW Loads and Resource Study
 2011 - 2012 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wanapum-															
1 Wanapum	484	384	334	421	552	523	576	472	393	220	194	415	416	404	429
2 Wanapum Before Enc	484	384	334	421	552	523	576	472	393	220	194	415	416	404	429
-Wanapum-															
3 AVWP Share	16	12	10	13	18	17	19	15	12	6.4	4.9	13	13	13	14
4 COPD Share	7.3	5.6	4.8	6.3	8.6	8	9.0	7.1	5.8	3	2.3	6.1	6.1	5.9	6.4
5 EWEB Share	0.6	0.4	0.4	0.5	0.7	0.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	0.5
6 FGRV Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.7	0.5	1.4	1.4	1.4	1.5
7 GCPD Share	253	192	165	216	295	277	310	246	200	103	80	210	211	203	221
8 KITT Share	0.6	0.4	0.4	0.5	0.7	0.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	0.5
9 MCMN Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.7	0.5	1.4	1.4	1.4	1.5
10 MTRF Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.7	0.5	1.4	1.4	1.4	1.5
11 PGE Share	35	27	23	30	41	39	43	34	28	14	11	29	30	28	31
12 PNWMkr Share	83	63	54	71	97	91	102	81	66	34	26	69	69	67	73
13 PPL Share	4.6	3.5	3.0	3.9	5.3	5.0	5.6	4.4	3.6	1.9	1.4	3.8	3.8	3.7	4.0
14 PSE Share	2.6	2.0	1.7	2.2	3.1	2.9	3.2	2.6	2.1	1.1	0.8	2.2	2.2	2.1	2.3
15 SCL Share	1.1	0.8	0.7	0.9	1.3	1.2	1.4	1.1	0.9	0.5	0.4	0.9	0.9	0.9	1.0
16 TPU Share	1.2	0.9	0.8	1	1.4	1.3	1.5	1.2	0.9	0.5	0.4	1.0	1.0	1.0	1
17 Wanapum After Enc	411	312	268	350	479	449	502	399	324	168	130	341	343	330	358
-Priest Rapids-															
18 Priest Rapids	353	353	338	420	536	511	558	463	390	236	120	199	259	310	376
19 Priest Rapids Before Enc	353	353	338	420	536	511	558	463	390	236	120	199	259	310	376
-Priest Rapids-															
20 AVWP Share	13	13	12	15	20	19	21	17	14	8.5	4.0	6.9	9.2	11	14
21 COPD Share	6	6	5.8	7.2	9.3	8.9	9.7	8.0	6.7	4.0	1.9	3.3	4.3	5.3	6.5
22 EWEB Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.5
23 FGRV Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
24 GCPD Share	207	208	199	249	320	305	334	276	231	138	65	113	149	181	222
25 KITT Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.5
26 MCMN Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
27 MTRF Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
28 PGE Share	29	29	28	35	45	43	47	39	32	19	9.1	16	21	25	31
29 PNWMkr Share	68	68	66	82	105	100	110	91	76	45	21	37	49	59	73
30 PPL Share	3.7	3.7	3.6	4.5	5.8	5.5	6	5.0	4.2	2.5	1.2	2	2.7	3.3	4
31 PSE Share	2.2	2.2	2.1	2.6	3.3	3.2	3.5	2.9	2.4	1.4	0.7	1.2	1.5	1.9	2.3
32 SCL Share	0.9	0.9	0.9	1.1	1.4	1.3	1.5	1.2	1	0.6	0.3	0.5	0.7	0.8	1.0
33 TPU Share	1.0	1.0	0.9	1.2	1.5	1.4	1.6	1.3	1.1	0.6	0.3	0.5	0.7	0.9	1
34 Priest Rapids After Enc	336	337	323	404	520	495	542	447	375	223	105	183	242	293	360

Table A-20: Wanapum and Priest Rapids Allocation
PNW Loads and Resource Study
2012 - 2013 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wanapum-															
1 Wanapum	484	384	334	421	552	523	576	472	393	220	194	415	416	404	429
2 Wanapum Before Enc	484	384	334	421	552	523	576	472	393	220	194	415	416	404	429
-Wanapum-															
3 AVWP Share	16	12	10	13	18	17	19	15	12	6.4	4.9	13	13	13	14
4 COPD Share	7.3	5.6	4.8	6.3	8.6	8	9.0	7.1	5.8	3	2.3	6.1	6.1	5.9	6.4
5 EWEB Share	0.6	0.4	0.4	0.5	0.7	0.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	0.5
6 FGRV Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.7	0.5	1.4	1.4	1.4	1.5
7 GCPD Share	253	192	165	216	295	277	310	246	200	103	80	210	211	203	221
8 KITT Share	0.6	0.4	0.4	0.5	0.7	0.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	0.5
9 MCMN Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.7	0.5	1.4	1.4	1.4	1.5
10 MTRF Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.7	0.5	1.4	1.4	1.4	1.5
11 PGE Share	35	27	23	30	41	39	43	34	28	14	11	29	30	28	31
12 PNWMkr Share	83	63	54	71	97	91	102	81	66	34	26	69	69	67	73
13 PPL Share	4.6	3.5	3.0	3.9	5.3	5.0	5.6	4.4	3.6	1.9	1.4	3.8	3.8	3.7	4.0
14 PSE Share	2.6	2.0	1.7	2.2	3.1	2.9	3.2	2.6	2.1	1.1	0.8	2.2	2.2	2.1	2.3
15 SCL Share	1.1	0.8	0.7	0.9	1.3	1.2	1.4	1.1	0.9	0.5	0.4	0.9	0.9	0.9	1.0
16 TPU Share	1.2	0.9	0.8	1	1.4	1.3	1.5	1.2	0.9	0.5	0.4	1.0	1.0	1.0	1
17 Wanapum After Enc	411	312	268	350	479	449	502	399	324	168	130	341	343	330	358
-Priest Rapids-															
18 Priest Rapids	353	353	338	420	536	511	558	463	390	236	120	199	259	310	376
19 Priest Rapids Before Enc	353	353	338	420	536	511	558	463	390	236	120	199	259	310	376
-Priest Rapids-															
20 AVWP Share	13	13	12	15	20	19	21	17	14	8.5	4.0	6.9	9.2	11	14
21 COPD Share	6	6	5.8	7.2	9.3	8.9	9.7	8.0	6.7	4.0	1.9	3.3	4.3	5.3	6.4
22 EWEB Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.5
23 FGRV Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
24 GCPD Share	207	208	199	249	320	305	334	276	231	138	65	113	149	181	222
25 KITT Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.5
26 MCMN Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
27 MTRF Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
28 PGE Share	29	29	28	35	45	43	47	39	32	19	9.1	16	21	25	31
29 PNWMkr Share	68	68	66	82	105	100	110	91	76	45	21	37	49	59	73
30 PPL Share	3.7	3.7	3.6	4.5	5.8	5.5	6	5.0	4.2	2.5	1.2	2	2.7	3.3	4.0
31 PSE Share	2.2	2.2	2.1	2.6	3.3	3.2	3.5	2.9	2.4	1.4	0.7	1.2	1.5	1.9	2.3
32 SCL Share	0.9	0.9	0.9	1.1	1.4	1.3	1.5	1.2	1	0.6	0.3	0.5	0.7	0.8	1.0
33 TPU Share	1.0	1.0	0.9	1.2	1.5	1.4	1.6	1.3	1.1	0.6	0.3	0.5	0.7	0.9	1
34 Priest Rapids After Enc	336	337	323	404	520	495	542	447	375	223	105	183	242	293	360

Table A-20: Wanapum and Priest Rapids Allocation
PNW Loads and Resource Study
2013 - 2014 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wanapum-															
1 Wanapum	484	384	334	421	552	530	576	472	393	203	194	415	416	404	429
2 Wanapum Before Enc	484	384	334	421	552	530	576	472	393	203	194	415	416	404	429
-Wanapum-															
3 AVWP Share	16	12	10	13	18	17	19	15	12	5.8	4.9	13	13	13	14
4 COPD Share	7.3	5.6	4.8	6.3	8.6	8.2	9.0	7.1	5.8	2.7	2.3	6.1	6.1	5.9	6.4
5 EWEB Share	0.6	0.4	0.4	0.5	0.7	0.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	0.5
6 FGRV Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.6	0.5	1.4	1.4	1.4	1.5
7 GCPD Share	253	192	165	216	295	281	310	246	200	94	80	210	211	203	221
8 KITT Share	0.6	0.4	0.4	0.5	0.7	0.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	0.5
9 MCMN Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.6	0.5	1.4	1.4	1.4	1.5
10 MTRF Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.6	0.5	1.4	1.4	1.4	1.5
11 PGE Share	35	27	23	30	41	39	43	34	28	13	11	29	30	28	31
12 PNWMkr Share	83	63	54	71	97	92	102	81	66	31	26	69	69	67	73
13 PPL Share	4.6	3.5	3.0	3.9	5.3	5.1	5.6	4.4	3.6	1.7	1.4	3.8	3.8	3.7	4.0
14 PSE Share	2.6	2.0	1.7	2.2	3.1	2.9	3.2	2.6	2.1	1.0	0.8	2.2	2.2	2.1	2.3
15 SCL Share	1.1	0.8	0.7	0.9	1.3	1.2	1.4	1.1	0.9	0.4	0.4	0.9	0.9	0.9	1.0
16 TPU Share	1.2	0.9	0.8	1	1.4	1.3	1.5	1.2	0.9	0.4	0.4	1.0	1.0	1.0	1
17 Wanapum After Enc	411	312	268	350	479	456	502	399	324	153	130	341	343	330	358
-Priest Rapids-															
18 Priest Rapids	353	353	338	420	536	518	558	463	390	221	120	199	259	310	376
19 Priest Rapids Before Enc	353	353	338	420	536	518	558	463	390	221	120	199	259	310	376
-Priest Rapids-															
20 AVWP Share	13	13	12	15	20	19	21	17	14	7.9	4.0	6.9	9.2	11	14
21 COPD Share	6	6	5.8	7.2	9.3	9.0	9.7	8.0	6.7	3.7	1.9	3.3	4.3	5.3	6.4
22 EWEB Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.5
23 FGRV Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
24 GCPD Share	207	208	199	249	320	309	334	276	231	129	65	113	149	181	222
25 KITT Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.5
26 MCMN Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
27 MTRF Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
28 PGE Share	29	29	28	35	45	43	47	39	32	18	9.1	16	21	25	31
29 PNWMkr Share	68	68	66	82	105	102	110	91	76	42	21	37	49	59	73
30 PPL Share	3.7	3.7	3.6	4.5	5.8	5.6	6	5.0	4.2	2.3	1.2	2	2.7	3.3	4.0
31 PSE Share	2.2	2.2	2.1	2.6	3.3	3.2	3.5	2.9	2.4	1.3	0.7	1.2	1.5	1.9	2.3
32 SCL Share	0.9	0.9	0.9	1.1	1.4	1.4	1.5	1.2	1	0.6	0.3	0.5	0.7	0.8	1.0
33 TPU Share	1.0	1.0	0.9	1.2	1.5	1.5	1.6	1.3	1.1	0.6	0.3	0.5	0.7	0.9	1
34 Priest Rapids After Enc	336	337	323	404	520	502	542	447	375	209	105	183	242	293	360

Table A-20: Wanapum and Priest Rapids Allocation
PNW Loads and Resource Study
2014 - 2015 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wanapum-															
1 Wanapum	484	384	334	421	552	556	576	472	393	142	194	415	416	404	429
2 Wanapum Before Enc	484	384	334	421	552	556	576	472	393	142	194	415	416	404	429
-Wanapum-															
3 AVWP Share	16	12	10	13	18	18	19	15	12	4	4.9	13	13	13	14
4 COPD Share	7.3	5.6	4.8	6.3	8.6	8.6	9.0	7.1	5.8	1.9	2.3	6.1	6.1	5.9	6.4
5 EWEB Share	0.6	0.4	0.4	0.5	0.7	0.7	0.7	0.6	0.5	0.1	0.2	0.5	0.5	0.5	0.5
6 FGRV Share	1.7	1.3	1.1	1.5	2	2	2.1	1.7	1.4	0.4	0.5	1.4	1.4	1.4	1.5
7 GCPD Share	253	192	165	216	295	298	310	246	200	65	80	210	211	203	221
8 KITT Share	0.6	0.4	0.4	0.5	0.7	0.7	0.7	0.6	0.5	0.1	0.2	0.5	0.5	0.5	0.5
9 MCMN Share	1.7	1.3	1.1	1.5	2	2	2.1	1.7	1.4	0.4	0.5	1.4	1.4	1.4	1.5
10 MTRF Share	1.7	1.3	1.1	1.5	2	2	2.1	1.7	1.4	0.4	0.5	1.4	1.4	1.4	1.5
11 PGE Share	35	27	23	30	41	42	43	34	28	9.1	11	29	30	28	31
12 PNWMkr Share	83	63	54	71	97	98	102	81	66	21	26	69	69	67	73
13 PPL Share	4.6	3.5	3.0	3.9	5.3	5.4	5.6	4.4	3.6	1.2	1.4	3.8	3.8	3.7	4.0
14 PSE Share	2.6	2.0	1.7	2.2	3.1	3.1	3.2	2.6	2.1	0.7	0.8	2.2	2.2	2.1	2.3
15 SCL Share	1.1	0.8	0.7	0.9	1.3	1.3	1.4	1.1	0.9	0.3	0.4	0.9	0.9	0.9	1.0
16 TPU Share	1.2	0.9	0.8	1	1.4	1.4	1.5	1.2	0.9	0.3	0.4	1.0	1.0	1.0	1
17 Wanapum After Enc	411	312	268	350	479	483	502	399	324	106	130	341	343	330	358
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-Priest Rapids-															
20 AVWP Share	13	13	12	15	20	20	21	17	14	5.8	4.0	6.9	9.2	11	14
21 COPD Share	6	6	5.8	7.2	9.3	9.4	9.7	8.0	6.7	2.7	1.9	3.3	4.3	5.3	6.4
22 EWEB Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.2	0.1	0.3	0.3	0.4	0.5
23 FGRV Share	1.4	1.4	1.4	1.7	2.2	2.2	2.3	1.9	1.6	0.6	0.4	0.8	1	1.2	1.5
24 GCPD Share	207	208	199	249	320	324	334	276	231	94	65	113	149	181	222
25 KITT Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.2	0.1	0.3	0.3	0.4	0.5
26 MCMN Share	1.4	1.4	1.4	1.7	2.2	2.2	2.3	1.9	1.6	0.6	0.4	0.8	1	1.2	1.5
27 MTRF Share	1.4	1.4	1.4	1.7	2.2	2.2	2.3	1.9	1.6	0.6	0.4	0.8	1	1.2	1.5
28 PGE Share	29	29	28	35	45	45	47	39	32	13	9.1	16	21	25	31
29 PNWMkr Share	68	68	66	82	105	106	110	91	76	31	21	37	49	59	73
30 PPL Share	3.7	3.7	3.6	4.5	5.8	5.8	6	5.0	4.2	1.7	1.2	2	2.7	3.3	4.0
31 PSE Share	2.2	2.2	2.1	2.6	3.3	3.4	3.5	2.9	2.4	1.0	0.7	1.2	1.5	1.9	2.3
32 SCL Share	0.9	0.9	0.9	1.1	1.4	1.4	1.5	1.2	1	0.4	0.3	0.5	0.7	0.8	1.0
33 TPU Share	1.0	1.0	0.9	1.2	1.5	1.5	1.6	1.3	1.1	0.4	0.3	0.5	0.7	0.9	1
34 Priest Rapids After Enc	336	337	323	404	520	525	542	447	375	152	105	183	242	293	360

Table A-20: Wanapum and Priest Rapids Allocation
PNW Loads and Resource Study
2015 - 2016 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wanapum-															
1 Wanapum	484	384	334	421	552	530	576	472	393	203	194	415	416	404	429
2 Wanapum Before Enc	484	384	334	421	552	530	576	472	393	203	194	415	416	404	429
-Wanapum-															
3 AVWP Share	16	12	10	13	18	17	19	15	12	5.8	4.9	13	13	13	14
4 COPD Share	7.3	5.6	4.8	6.3	8.6	8.2	9.0	7.1	5.8	2.7	2.3	6.1	6.1	5.9	6.4
5 EWEB Share	0.6	0.4	0.4	0.5	0.7	0.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	0.5
6 FGRV Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.6	0.5	1.4	1.4	1.4	1.5
7 GCPD Share	253	192	165	216	295	281	310	246	200	94	80	210	211	203	221
8 KITT Share	0.6	0.4	0.4	0.5	0.7	0.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	0.5
9 MCMN Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.6	0.5	1.4	1.4	1.4	1.5
10 MTRF Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.6	0.5	1.4	1.4	1.4	1.5
11 PGE Share	35	27	23	30	41	39	43	34	28	13	11	29	30	28	31
12 PNWMtr Share	83	63	54	71	97	92	102	81	66	31	26	69	69	67	73
13 PPL Share	4.6	3.5	3.0	3.9	5.3	5.1	5.6	4.4	3.6	1.7	1.4	3.8	3.8	3.7	4.0
14 PSE Share	2.6	2.0	1.7	2.2	3.1	2.9	3.2	2.6	2.1	1.0	0.8	2.2	2.2	2.1	2.3
15 SCL Share	1.1	0.8	0.7	0.9	1.3	1.2	1.4	1.1	0.9	0.4	0.4	0.9	0.9	0.9	1.0
16 TPU Share	1.2	0.9	0.8	1	1.4	1.3	1.5	1.2	0.9	0.4	0.4	1.0	1.0	1.0	1
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-Priest Rapids-															
20 AVWP Share	13	13	12	15	20	19	21	17	14	7.9	4.0	6.9	9.2	11	14
21 COPD Share	6	6	5.8	7.2	9.3	9.0	9.7	8.0	6.7	3.7	1.9	3.3	4.3	5.3	6.5
22 EWEB Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.5
23 FGRV Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
24 GCPD Share	207	208	199	249	320	309	334	276	231	129	65	113	149	181	222
25 KITT Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.5
26 MCMN Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
27 MTRF Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
28 PGE Share	29	29	28	35	45	43	47	39	32	18	9.1	16	21	25	31
29 PNWMtr Share	68	68	66	82	105	102	110	91	76	42	21	37	49	59	73
30 PPL Share	3.7	3.7	3.6	4.5	5.8	5.6	6	5.0	4.2	2.3	1.2	2	2.7	3.3	4
31 PSE Share	2.2	2.2	2.1	2.6	3.3	3.2	3.5	2.9	2.4	1.3	0.7	1.2	1.5	1.9	2.3
32 SCL Share	0.9	0.9	0.9	1.1	1.4	1.4	1.5	1.2	1	0.6	0.3	0.5	0.7	0.8	1.0
33 TPU Share	1.0	1.0	0.9	1.2	1.5	1.5	1.6	1.3	1.1	0.6	0.3	0.5	0.7	0.9	1
34 Priest Rapids After Enc	336	337	323	404	520	502	542	447	375	209	105	183	242	293	360

Table A-20: Wanapum and Priest Rapids Allocation
PNW Loads and Resource Study
2016 - 2017 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wanapum-															
1 Wanapum	484	384	334	421	552	556	576	472	393	142	194	415	416	404	429
2 Wanapum Before Enc	484	384	334	421	552	556	576	472	393	142	194	415	416	404	429
-Wanapum-															
3 AVWP Share	16	12	10	13	18	18	19	15	12	4	4.9	13	13	13	14
4 COPD Share	7.3	5.6	4.8	6.3	8.6	8.6	9.0	7.1	5.8	1.9	2.3	6.1	6.1	5.9	6.4
5 EWEB Share	0.6	0.4	0.4	0.5	0.7	0.7	0.7	0.6	0.5	0.1	0.2	0.5	0.5	0.5	0.5
6 FGRV Share	1.7	1.3	1.1	1.5	2	2	2.1	1.7	1.4	0.4	0.5	1.4	1.4	1.4	1.5
7 GCPD Share	253	192	165	216	295	298	310	246	200	65	80	210	211	203	221
8 KITT Share	0.6	0.4	0.4	0.5	0.7	0.7	0.7	0.6	0.5	0.1	0.2	0.5	0.5	0.5	0.5
9 MCMN Share	1.7	1.3	1.1	1.5	2	2	2.1	1.7	1.4	0.4	0.5	1.4	1.4	1.4	1.5
10 MTRF Share	1.7	1.3	1.1	1.5	2	2	2.1	1.7	1.4	0.4	0.5	1.4	1.4	1.4	1.5
11 PGE Share	35	27	23	30	41	42	43	34	28	9.1	11	29	30	28	31
12 PNWMkr Share	83	63	54	71	97	98	102	81	66	21	26	69	69	67	73
13 PPL Share	4.6	3.5	3.0	3.9	5.3	5.4	5.6	4.4	3.6	1.2	1.4	3.8	3.8	3.7	4.0
14 PSE Share	2.6	2.0	1.7	2.2	3.1	3.1	3.2	2.6	2.1	0.7	0.8	2.2	2.2	2.1	2.3
15 SCL Share	1.1	0.8	0.7	0.9	1.3	1.3	1.4	1.1	0.9	0.3	0.4	0.9	0.9	0.9	1.0
16 TPU Share	1.2	0.9	0.8	1	1.4	1.4	1.5	1.2	0.9	0.3	0.4	1.0	1.0	1.0	1
17 Wanapum After Enc	411	312	268	350	479	483	502	399	324	106	130	341	343	330	358
-Priest Rapids-															
18 Priest Rapids	353	353	338	420	536	542	558	463	390	164	120	199	259	310	376
19 Priest Rapids Before Enc	353	353	338	420	536	542	558	463	390	164	120	199	259	310	376
-Priest Rapids-															
20 AVWP Share	13	13	12	15	20	20	21	17	14	5.8	4.0	6.9	9.2	11	14
21 COPD Share	6	6	5.8	7.2	9.3	9.4	9.7	8.0	6.7	2.7	1.9	3.3	4.3	5.3	6.4
22 EWEB Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.2	0.1	0.3	0.3	0.4	0.5
23 FGRV Share	1.4	1.4	1.4	1.7	2.2	2.2	2.3	1.9	1.6	0.6	0.4	0.8	1	1.2	1.5
24 GCPD Share	207	208	199	249	320	324	334	276	231	94	65	113	149	181	222
25 KITT Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.2	0.1	0.3	0.3	0.4	0.5
26 MCMN Share	1.4	1.4	1.4	1.7	2.2	2.2	2.3	1.9	1.6	0.6	0.4	0.8	1	1.2	1.5
27 MTRF Share	1.4	1.4	1.4	1.7	2.2	2.2	2.3	1.9	1.6	0.6	0.4	0.8	1	1.2	1.5
28 PGE Share	29	29	28	35	45	45	47	39	32	13	9.1	16	21	25	31
29 PNWMkr Share	68	68	66	82	105	106	110	91	76	31	21	37	49	59	73
30 PPL Share	3.7	3.7	3.6	4.5	5.8	5.8	6	5.0	4.2	1.7	1.2	2	2.7	3.3	4.0
31 PSE Share	2.2	2.2	2.1	2.6	3.3	3.4	3.5	2.9	2.4	1.0	0.7	1.2	1.5	1.9	2.3
32 SCL Share	0.9	0.9	0.9	1.1	1.4	1.4	1.5	1.2	1	0.4	0.3	0.5	0.7	0.8	1.0
33 TPU Share	1.0	1.0	0.9	1.2	1.5	1.5	1.6	1.3	1.1	0.4	0.3	0.5	0.7	0.9	1
34 Priest Rapids After Enc	336	337	323	404	520	525	542	447	375	152	105	183	242	293	360

Table A-20: Wanapum and Priest Rapids Allocation
 PNW Loads and Resource Study
 2017 - 2018 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wanapum-															
1 Wanapum	484	384	334	421	552	530	576	472	393	203	194	415	416	404	429
2 Wanapum Before Enc	484	384	334	421	552	530	576	472	393	203	194	415	416	404	429
-Wanapum-															
3 AVWP Share	16	12	10	13	18	17	19	15	12	5.8	4.9	13	13	13	14
4 COPD Share	7.3	5.6	4.8	6.3	8.6	8.2	9.0	7.1	5.8	2.7	2.3	6.1	6.1	5.9	6.4
5 EWEB Share	0.6	0.4	0.4	0.5	0.7	0.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	0.5
6 FGRV Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.6	0.5	1.4	1.4	1.4	1.5
7 GCPD Share	253	192	165	216	295	281	310	246	200	94	80	210	211	203	221
8 KITT Share	0.6	0.4	0.4	0.5	0.7	0.6	0.7	0.6	0.5	0.2	0.2	0.5	0.5	0.5	0.5
9 MCMN Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.6	0.5	1.4	1.4	1.4	1.5
10 MTRF Share	1.7	1.3	1.1	1.5	2	1.9	2.1	1.7	1.4	0.6	0.5	1.4	1.4	1.4	1.5
11 PGE Share	35	27	23	30	41	39	43	34	28	13	11	29	30	28	31
12 PNWMkr Share	83	63	54	71	97	92	102	81	66	31	26	69	69	67	73
13 PPL Share	4.6	3.5	3.0	3.9	5.3	5.1	5.6	4.4	3.6	1.7	1.4	3.8	3.8	3.7	4.0
14 PSE Share	2.6	2.0	1.7	2.2	3.1	2.9	3.2	2.6	2.1	1.0	0.8	2.2	2.2	2.1	2.3
15 SCL Share	1.1	0.8	0.7	0.9	1.3	1.2	1.4	1.1	0.9	0.4	0.4	0.9	0.9	0.9	1.0
16 TPU Share	1.2	0.9	0.8	1	1.4	1.3	1.5	1.2	0.9	0.4	0.4	1.0	1.0	1.0	1
17 Wanapum After Enc	411	312	268	350	479	456	502	399	324	153	130	341	343	330	358
-Priest Rapids-															
18 Priest Rapids	353	353	338	420	536	518	558	463	390	221	120	199	259	310	376
19 Priest Rapids Before Enc	353	353	338	420	536	518	558	463	390	221	120	199	259	310	376
-Priest Rapids-															
20 AVWP Share	13	13	12	15	20	19	21	17	14	7.9	4.0	6.9	9.2	11	14
21 COPD Share	6	6	5.8	7.2	9.3	9.0	9.7	8.0	6.7	3.7	1.9	3.3	4.3	5.3	6.4
22 EWEB Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.5
23 FGRV Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
24 GCPD Share	207	208	199	249	320	309	334	276	231	129	65	113	149	181	222
25 KITT Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.3	0.1	0.3	0.3	0.4	0.5
26 MCMN Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
27 MTRF Share	1.4	1.4	1.4	1.7	2.2	2.1	2.3	1.9	1.6	0.9	0.4	0.8	1	1.2	1.5
28 PGE Share	29	29	28	35	45	43	47	39	32	18	9.1	16	21	25	31
29 PNWMkr Share	68	68	66	82	105	102	110	91	76	42	21	37	49	59	73
30 PPL Share	3.7	3.7	3.6	4.5	5.8	5.6	6	5.0	4.2	2.3	1.2	2	2.7	3.3	4.0
31 PSE Share	2.2	2.2	2.1	2.6	3.3	3.2	3.5	2.9	2.4	1.3	0.7	1.2	1.5	1.9	2.3
32 SCL Share	0.9	0.9	0.9	1.1	1.4	1.4	1.5	1.2	1	0.6	0.3	0.5	0.7	0.8	1.0
33 TPU Share	1.0	1.0	0.9	1.2	1.5	1.5	1.6	1.3	1.1	0.6	0.3	0.5	0.7	0.9	1
34 Priest Rapids After Enc	336	337	323	404	520	502	542	447	375	209	105	183	242	293	360

Table A-20: Wanapum and Priest Rapids Allocation
PNW Loads and Resource Study
2018 - 2019 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
-Wanapum-															
1 Wanapum	484	384	334	421	552	556	576	472	393	142	194	415	416	404	429
2 Wanapum Before Enc	484	384	334	421	552	556	576	472	393	142	194	415	416	404	429
-Wanapum-															
3 AVWP Share	16	12	10	13	18	18	19	15	12	4	4.9	13	13	13	14
4 COPD Share	7.3	5.6	4.8	6.3	8.6	8.6	9.0	7.1	5.8	1.9	2.3	6.1	6.1	5.9	6.4
5 EWEB Share	0.6	0.4	0.4	0.5	0.7	0.7	0.7	0.6	0.5	0.1	0.2	0.5	0.5	0.5	0.5
6 FGRV Share	1.7	1.3	1.1	1.5	2	2	2.1	1.7	1.4	0.4	0.5	1.4	1.4	1.4	1.5
7 GCPD Share	253	192	165	216	295	298	310	246	200	65	80	210	211	203	221
8 KITT Share	0.6	0.4	0.4	0.5	0.7	0.7	0.7	0.6	0.5	0.1	0.2	0.5	0.5	0.5	0.5
9 MCMN Share	1.7	1.3	1.1	1.5	2	2	2.1	1.7	1.4	0.4	0.5	1.4	1.4	1.4	1.5
10 MTRF Share	1.7	1.3	1.1	1.5	2	2	2.1	1.7	1.4	0.4	0.5	1.4	1.4	1.4	1.5
11 PGE Share	35	27	23	30	41	42	43	34	28	9.1	11	29	30	28	31
12 PNWMkr Share	83	63	54	71	97	98	102	81	66	21	26	69	69	67	73
13 PPL Share	4.6	3.5	3.0	3.9	5.3	5.4	5.6	4.4	3.6	1.2	1.4	3.8	3.8	3.7	4.0
14 PSE Share	2.6	2.0	1.7	2.2	3.1	3.1	3.2	2.6	2.1	0.7	0.8	2.2	2.2	2.1	2.3
15 SCL Share	1.1	0.8	0.7	0.9	1.3	1.3	1.4	1.1	0.9	0.3	0.4	0.9	0.9	0.9	1.0
16 TPU Share	1.2	0.9	0.8	1	1.4	1.4	1.5	1.2	0.9	0.3	0.4	1.0	1.0	1.0	1
17 Wanapum After Enc	411	312	268	350	479	483	502	399	324	106	130	341	343	330	358
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19 Priest Rapids Before Enc	353	353	338	420	536	542	558	463	390	164	120	199	259	310	376
-Priest Rapids-															
20 AVWP Share	13	13	12	15	20	20	21	17	14	5.8	4.0	6.9	9.2	11	14
21 COPD Share	6	6	5.8	7.2	9.3	9.4	9.7	8.0	6.7	2.7	1.9	3.3	4.3	5.3	6.4
22 EWEB Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.2	0.1	0.3	0.3	0.4	0.5
23 FGRV Share	1.4	1.4	1.4	1.7	2.2	2.2	2.3	1.9	1.6	0.6	0.4	0.8	1	1.2	1.5
24 GCPD Share	207	208	199	249	320	324	334	276	231	94	65	113	149	181	222
25 KITT Share	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.6	0.5	0.2	0.1	0.3	0.3	0.4	0.5
26 MCMN Share	1.4	1.4	1.4	1.7	2.2	2.2	2.3	1.9	1.6	0.6	0.4	0.8	1	1.2	1.5
27 MTRF Share	1.4	1.4	1.4	1.7	2.2	2.2	2.3	1.9	1.6	0.6	0.4	0.8	1	1.2	1.5
28 PGE Share	29	29	28	35	45	45	47	39	32	13	9.1	16	21	25	31
29 PNWMkr Share	68	68	66	82	105	106	110	91	76	31	21	37	49	59	73
30 PPL Share	3.7	3.7	3.6	4.5	5.8	5.8	6	5.0	4.2	1.7	1.2	2	2.7	3.3	4.0
31 PSE Share	2.2	2.2	2.1	2.6	3.3	3.4	3.5	2.9	2.4	1.0	0.7	1.2	1.5	1.9	2.3
32 SCL Share	0.9	0.9	0.9	1.1	1.4	1.4	1.5	1.2	1	0.4	0.3	0.5	0.7	0.8	1.0
33 TPU Share	1.0	1.0	0.9	1.2	1.5	1.5	1.6	1.3	1.1	0.4	0.3	0.5	0.7	0.9	1
34 Priest Rapids After Enc	336	337	323	404	520	525	542	447	375	152	105	183	242	293	360

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Table A-21
Swift #1 and Swift #2 Allocation
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-21: Swift #1 and Swift #2 Allocation
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Swift 1-															
1 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
2 Swift 1 Before Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 1-															
3 COPD Share	14	6.8	7.9	4.4	34	30	6.6	6.7	12	40	0	7.1	37	15	16
4 PPL Share	39	19	22	13	97	85	19	19	33	114	0	20	106	43	45
5 Swift 1 After Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 2-															
6 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
7 Swift 2 Before Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
Swift 2-															
8 COPD Share	3.8	2	2.3	1.3	12	13	3.1	3.2	5.3	18	0	2.5	11	4.1	5.8
9 PPL Share	11	5.7	6.7	3.8	33	37	9.0	9	15	51	0	7.3	31	12	16
10 Swift 2 After Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22

Table A-21: Swift #1 and Swift #2 Allocation
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
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Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
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4 PPL Share	39	19	22	13	97	85	19	19	33	114	0	20	106	43	45
5 Swift 1 After Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 2-															
6 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
7 Swift 2 Before Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
Swift 2-															
8 COPD Share	3.8	2	2.3	1.3	12	13	3.1	3.2	5.3	18	0	2.5	11	4.1	5.8
9 PPL Share	11	5.7	6.7	3.8	33	37	9.0	9	15	51	0	7.3	31	12	16
10 Swift 2 After Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22

Table A-21: Swift #1 and Swift #2 Allocation
 PNW Loads and Resource Study
 2011 - 2012 Operating Year
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7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Swift 1-															
1 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
2 Swift 1 Before Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 1-															
3 COPD Share	14	6.8	7.9	4.4	34	30	6.6	6.7	12	40	0	7.1	37	15	16
4 PPL Share	39	19	22	13	97	85	19	19	33	114	0	20	106	43	45
5 Swift 1 After Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 2-															
6 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
7 Swift 2 Before Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
Swift 2-															
8 COPD Share	3.8	2	2.3	1.3	12	13	3.1	3.2	5.3	18	0	2.5	11	4.1	5.8
9 PPL Share	11	5.7	6.7	3.8	33	37	9.0	9	15	51	0	7.3	31	12	16
10 Swift 2 After Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22

Table A-21: Swift #1 and Swift #2 Allocation
 PNW Loads and Resource Study
 2012 - 2013 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Swift 1-															
1 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
2 Swift 1 Before Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 1-															
3 COPD Share	14	6.8	7.9	4.4	34	30	6.6	6.7	12	40	0	7.1	37	15	16
4 PPL Share	39	19	22	13	97	85	19	19	33	114	0	20	106	43	45
5 Swift 1 After Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 2-															
6 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
7 Swift 2 Before Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
Swift 2-															
8 COPD Share	3.8	2	2.3	1.3	12	13	3.1	3.2	5.3	18	0	2.5	11	4.1	5.8
9 PPL Share	11	5.7	6.7	3.8	33	37	9.0	9	15	51	0	7.3	31	12	16
10 Swift 2 After Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22

Table A-21: Swift #1 and Swift #2 Allocation
 PNW Loads and Resource Study
 2013 - 2014 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Swift 1-															
1 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
2 Swift 1 Before Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 1-															
3 COPD Share	14	6.8	7.9	4.4	34	30	6.6	6.7	12	40	0	7.1	37	15	16
4 PPL Share	39	19	22	13	97	85	19	19	33	114	0	20	106	43	45
5 Swift 1 After Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 2-															
6 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
7 Swift 2 Before Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
Swift 2-															
8 COPD Share	3.8	2	2.3	1.3	12	13	3.1	3.2	5.3	18	0	2.5	11	4.1	5.8
9 PPL Share	11	5.7	6.7	3.8	33	37	9.0	9	15	51	0	7.3	31	12	16
10 Swift 2 After Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22

Table A-21: Swift #1 and Swift #2 Allocation
 PNW Loads and Resource Study
 2014 - 2015 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Swift 1-															
1 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
2 Swift 1 Before Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 1-															
3 COPD Share	14	6.8	7.9	4.4	34	30	6.6	6.7	12	40	0	7.1	37	15	16
4 PPL Share	39	19	22	13	97	85	19	19	33	114	0	20	106	43	45
5 Swift 1 After Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 2-															
6 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
7 Swift 2 Before Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
Swift 2-															
8 COPD Share	3.8	2	2.3	1.3	12	13	3.1	3.2	5.3	18	0	2.5	11	4.1	5.8
9 PPL Share	11	5.7	6.7	3.8	33	37	9.0	9	15	51	0	7.3	31	12	16
10 Swift 2 After Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22

Table A-21: Swift #1 and Swift #2 Allocation
 PNW Loads and Resource Study
 2015 - 2016 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Swift 1-															
1 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
2 Swift 1 Before Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 1-															
3 COPD Share	14	6.8	7.9	4.4	34	30	6.6	6.7	12	40	0	7.1	37	15	16
4 PPL Share	39	19	22	13	97	85	19	19	33	114	0	20	106	43	45
5 Swift 1 After Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 2-															
6 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
7 Swift 2 Before Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
Swift 2-															
8 COPD Share	3.8	2	2.3	1.3	12	13	3.1	3.2	5.3	18	0	2.5	11	4.1	5.8
9 PPL Share	11	5.7	6.7	3.8	33	37	9.0	9	15	51	0	7.3	31	12	16
10 Swift 2 After Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22

Table A-21: Swift #1 and Swift #2 Allocation
 PNW Loads and Resource Study
 2016 - 2017 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Swift 1-															
1 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
2 Swift 1 Before Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 1-															
3 COPD Share	14	6.8	7.9	4.4	34	30	6.6	6.7	12	40	0	7.1	37	15	16
4 PPL Share	39	19	22	13	97	85	19	19	33	114	0	20	106	43	45
5 Swift 1 After Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 2-															
6 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
7 Swift 2 Before Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
Swift 2-															
8 COPD Share	3.8	2	2.3	1.3	12	13	3.1	3.2	5.3	18	0	2.5	11	4.1	5.8
9 PPL Share	11	5.7	6.7	3.8	33	37	9.0	9	15	51	0	7.3	31	12	16
10 Swift 2 After Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22

Table A-21: Swift #1 and Swift #2 Allocation
 PNW Loads and Resource Study
 2017 - 2018 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Swift 1-															
1 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
2 Swift 1 Before Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 1-															
3 COPD Share	14	6.8	7.9	4.4	34	30	6.6	6.7	12	40	0	7.1	37	15	16
4 PPL Share	39	19	22	13	97	85	19	19	33	114	0	20	106	43	45
5 Swift 1 After Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 2-															
6 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
7 Swift 2 Before Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
Swift 2-															
8 COPD Share	3.8	2	2.3	1.3	12	13	3.1	3.2	5.3	18	0	2.5	11	4.1	5.8
9 PPL Share	11	5.7	6.7	3.8	33	37	9.0	9	15	51	0	7.3	31	12	16
10 Swift 2 After Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22

Table A-21: Swift #1 and Swift #2 Allocation
 PNW Loads and Resource Study
 2018 - 2019 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
Swift 1- 1 Swift 1	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
2 Swift 1 Before Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 1- 3 COPD Share	14	6.8	7.9	4.4	34	30	6.6	6.7	12	40	0	7.1	37	15	16
4 PPL Share	39	19	22	13	97	85	19	19	33	114	0	20	106	43	45
5 Swift 1 After Enc	52	26	30	17	131	115	25	26	45	154	0	27	143	58	61
Swift 2- 6 Swift 2	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
7 Swift 2 Before Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22
Swift 2- 8 COPD Share	3.8	2	2.3	1.3	12	13	3.1	3.2	5.3	18	0	2.5	11	4.1	5.8
9 PPL Share	11	5.7	6.7	3.8	33	37	9.0	9	15	51	0	7.3	31	12	16
10 Swift 2 After Enc	15	7.7	9	5.1	44	50	12	12	20	69	0	9.8	42	16	22

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Table A-22
BPA Power Sale Contracts
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-22: BPA Power Sale Contracts
PNW Loads and Resource Study
2009 - 2010 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	116	115	106	106	126	139	145	137	124	114	114	108	105	117	120
2 Total Federal Entities	116	115	106	106	126	139	145	137	124	114	114	108	105	117	120
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
6 Total Direct Service Industry	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	1968	1960	2089	2015	2505	2756	2719	2695	2481	2135	2135	1935	1831	1896	2249
8 Total Generating Public Entities	1968	1960	2089	2015	2505	2756	2719	2695	2481	2135	2135	1935	1831	1896	2249
<i>-Generating Public Entities (Slice)-</i>															
9 Generating Public Entities (Slice)	1079	909	859	959	1134	1091	1098	979	924	718	776	1238	1057	1036	1011
10 Total Generating Public Entities (Slice)	1079	909	859	959	1134	1091	1098	979	924	718	776	1238	1057	1036	1011
<i>-Non-Generating Public Entities-</i>															
11 Non-Generating Public Entities	3065	3042	2787	2776	3207	3586	3647	3476	3011	2922	2922	2907	3033	3229	3135
12 Total Non-Generating Public Entities	3065	3042	2787	2776	3207	3586	3647	3476	3011	2922	2922	2907	3033	3229	3135
<i>-Non-Generating Public Entities (Slice)-</i>															
13 Non-Generating Public Entities (Slice)	648	546	516	576	681	655	659	588	555	431	466	744	635	622	607
14 Total Non-Generating Public Entities (Slice)	648	546	516	576	681	655	659	588	555	431	466	744	635	622	607
<i>-Investor-Owned Entities-</i>															
15 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
17 Other PNW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Power Sales Contracts-</i>															
19 Federal Entities	116	115	106	106	126	139	145	137	124	114	114	108	105	117	120
20 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
21 Direct Service Industry	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
22 Generating Public Entities	3047	2869	2949	2974	3640	3847	3817	3673	3405	2854	2911	3174	2888	2931	3260
23 Non-Generating Public Entities	3713	3588	3303	3352	3888	4241	4306	4064	3566	3353	3388	3651	3668	3851	3742
24 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Total Power Sales Contracts	7149	6845	6592	6543	7685	8275	8356	7970	7163	6561	6654	7239	6964	7227	7300

Table A-22: BPA Power Sale Contracts
PNW Loads and Resource Study
2010 - 2011 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	118	120	109	110	130	143	148	140	126	115	115	110	107	119	123
2 Total Federal Entities	118	120	109	110	130	143	148	140	126	115	115	110	107	119	123
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
6 Total Direct Service Industry	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	1964	1976	2093	2014	2507	2756	2719	2696	2481	2136	2136	1935	1831	1898	2251
8 Total Generating Public Entities	1964	1976	2093	2014	2507	2756	2719	2696	2481	2136	2136	1935	1831	1898	2251
<i>-Generating Public Entities (Slice)-</i>															
9 Generating Public Entities (Slice)	1088	918	867	967	1142	1098	1105	986	931	658	641	1103	922	1024	984
10 Total Generating Public Entities (Slice)	1088	918	867	967	1142	1098	1105	986	931	658	641	1103	922	1024	984
<i>-Non-Generating Public Entities-</i>															
11 Non-Generating Public Entities	3106	3138	2849	2834	3265	3636	3703	3524	3064	2974	2974	2956	3082	3293	3191
12 Total Non-Generating Public Entities	3106	3138	2849	2834	3265	3636	3703	3524	3064	2974	2974	2956	3082	3293	3191
<i>-Non-Generating Public Entities (Slice)-</i>															
13 Non-Generating Public Entities (Slice)	654	551	521	580	686	660	663	592	559	395	385	663	554	615	591
14 Total Non-Generating Public Entities (Slice)	654	551	521	580	686	660	663	592	559	395	385	663	554	615	591
<i>-Investor-Owned Entities-</i>															
15 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
17 Other PNW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Power Sales Contracts-</i>															
19 Federal Entities	118	120	109	110	130	143	148	140	126	115	115	110	107	119	123
20 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
21 Direct Service Industry	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
22 Generating Public Entities	3053	2894	2960	2981	3648	3854	3824	3682	3412	2794	2776	3038	2753	2922	3234
23 Non-Generating Public Entities	3760	3689	3370	3414	3950	4296	4366	4116	3623	3369	3359	3618	3636	3908	3782
24 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Total Power Sales Contracts	7203	6975	6674	6615	7760	8342	8425	8034	7229	6520	6491	7072	6799	7276	7317

Table A-22: BPA Power Sale Contracts
PNW Loads and Resource Study
2011 - 2012 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	121	121	110	111	133	146	150	143	129	117	118	111	108	121	125
2 Total Federal Entities	121	121	110	111	133	146	150	143	129	117	118	111	108	121	125
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	85	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	85	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	17	17	17	0	0	0	0	0	0	0	0	0	0	0	2.8
6 Total Direct Service Industry	17	17	17	0	0	0	0	0	0	0	0	0	0	0	2.8
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	1965	1966	2093	1601	1913	2122	2123	1934	1819	1648	1649	1498	1444	1447	1800
8 Total Generating Public Entities	1965	1966	2093	1601	1913	2122	2123	1934	1819	1648	1649	1498	1444	1447	1800
<i>-Generating Public Entities (Slice)-</i>															
9 Generating Public Entities (Slice)	1091	920	869	1497	1730	1658	1667	1480	1417	1096	1181	1909	1621	1595	1467
10 Total Generating Public Entities (Slice)	1091	920	869	1497	1730	1658	1667	1480	1417	1096	1181	1909	1621	1595	1467
<i>-Non-Generating Public Entities-</i>															
11 Non-Generating Public Entities	3170	3172	2895	3149	3616	4013	4054	3866	3391	3256	3280	3264	3403	3641	3477
12 Total Non-Generating Public Entities	3170	3172	2895	3149	3616	4013	4054	3866	3391	3256	3280	3264	3403	3641	3477
<i>-Non-Generating Public Entities (Slice)-</i>															
13 Non-Generating Public Entities (Slice)	655	552	522	367	424	406	409	363	347	269	289	468	397	391	415
14 Total Non-Generating Public Entities (Slice)	655	552	522	367	424	406	409	363	347	269	289	468	397	391	415
<i>-Investor-Owned Entities-</i>															
15 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
17 Other PNW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Power Sales Contracts-</i>															
19 Federal Entities	121	121	110	111	133	146	150	143	129	117	118	111	108	121	125
20 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	85	50	224	224	289	286	310	161
21 Direct Service Industry	17	17	17	0	0	0	0	0	0	0	0	0	0	0	2.8
22 Generating Public Entities	3056	2886	2962	3098	3643	3780	3791	3413	3236	2744	2830	3407	3064	3042	3267
23 Non-Generating Public Entities	3825	3725	3417	3515	4040	4419	4463	4228	3738	3525	3570	3731	3800	4032	3892
24 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Total Power Sales Contracts	7274	7005	6725	6819	7831	8377	8474	7869	7153	6610	6742	7539	7259	7505	7448

Table A-22: BPA Power Sale Contracts
PNW Loads and Resource Study
2012 - 2013 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	123	123	112	113	135	149	152	144	130	119	119	113	109	123	127
2 Total Federal Entities	123	123	112	113	135	149	152	144	130	119	119	113	109	123	127
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Total Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	1456	1456	1447	1621	1932	2140	2142	2015	1838	1668	1668	1518	1464	1468	1724
8 Total Generating Public Entities	1456	1456	1447	1621	1932	2140	2142	2015	1838	1668	1668	1518	1464	1468	1724
<i>-Generating Public Entities (Slice)-</i>															
9 Generating Public Entities (Slice)	1680	1415	1344	1499	1730	1657	1668	1484	1421	1099	1184	1766	1408	1578	1522
10 Total Generating Public Entities (Slice)	1680	1415	1344	1499	1730	1657	1668	1484	1421	1099	1184	1766	1408	1578	1522
<i>-Non-Generating Public Entities-</i>															
11 Non-Generating Public Entities	3516	3519	3244	3213	3684	4084	4142	3947	3462	3336	3336	3352	3472	3715	3596
12 Total Non-Generating Public Entities	3516	3519	3244	3213	3684	4084	4142	3947	3462	3336	3336	3352	3472	3715	3596
<i>-Non-Generating Public Entities (Slice)-</i>															
13 Non-Generating Public Entities (Slice)	412	347	329	367	424	406	409	364	348	269	290	433	345	387	373
14 Total Non-Generating Public Entities (Slice)	412	347	329	367	424	406	409	364	348	269	290	433	345	387	373
<i>-Investor-Owned Entities-</i>															
15 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
17 Other PNW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Power Sales Contracts-</i>															
19 Federal Entities	123	123	112	113	135	149	152	144	130	119	119	113	109	123	127
20 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
21 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Generating Public Entities	3136	2872	2791	3120	3662	3797	3810	3499	3259	2767	2852	3284	2872	3046	3246
23 Non-Generating Public Entities	3928	3866	3573	3581	4108	4490	4551	4311	3810	3605	3626	3785	3817	4102	3969
24 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Total Power Sales Contracts	7442	7116	6695	6908	7919	8468	8583	8033	7249	6715	6821	7471	7084	7580	7503

Table A-22: BPA Power Sale Contracts
PNW Loads and Resource Study
2013 - 2014 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	124	124	113	114	136	150	171	161	144	131	131	125	122	137	136
2 Total Federal Entities	124	124	113	114	136	150	171	161	144	131	131	125	122	137	136
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Total Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	1477	1477	1468	1646	1957	2166	2167	2040	1863	1693	1693	1543	1489	1492	1749
8 Total Generating Public Entities	1477	1477	1468	1646	1957	2166	2167	2040	1863	1693	1693	1543	1489	1492	1749
<i>-Generating Public Entities (Slice)-</i>															
9 Generating Public Entities (Slice)	1684	1419	1347	1502	1734	1677	1671	1486	1423	1073	1188	1918	1636	1611	1559
10 Total Generating Public Entities (Slice)	1684	1419	1347	1502	1734	1677	1671	1486	1423	1073	1188	1918	1636	1611	1559
<i>-Non-Generating Public Entities-</i>															
11 Non-Generating Public Entities	3588	3591	3312	3280	3754	4159	4216	4019	3528	3401	3401	3395	3539	3785	3664
12 Total Non-Generating Public Entities	3588	3591	3312	3280	3754	4159	4216	4019	3528	3401	3401	3395	3539	3785	3664
<i>-Non-Generating Public Entities (Slice)-</i>															
13 Non-Generating Public Entities (Slice)	413	348	330	368	425	411	409	364	349	263	291	470	401	395	382
14 Total Non-Generating Public Entities (Slice)	413	348	330	368	425	411	409	364	349	263	291	470	401	395	382
<i>-Investor-Owned Entities-</i>															
15 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
17 Other PNW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Power Sales Contracts-</i>															
19 Federal Entities	124	124	113	114	136	150	171	161	144	131	131	125	122	137	136
20 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
21 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Generating Public Entities	3161	2896	2815	3148	3691	3842	3838	3526	3286	2766	2881	3460	3125	3103	3307
23 Non-Generating Public Entities	4001	3939	3642	3649	4179	4570	4625	4384	3876	3664	3692	3865	3941	4180	4046
24 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Total Power Sales Contracts	7542	7215	6789	7005	8021	8595	8704	8150	7357	6786	6928	7739	7473	7730	7649

Table A-22: BPA Power Sale Contracts
PNW Loads and Resource Study
2014 - 2015 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	138	137	125	127	153	169	176	165	148	135	135	128	125	140	144
2 Total Federal Entities	138	137	125	127	153	169	176	165	148	135	135	128	125	140	144
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Total Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	1502	1501	1493	1669	1981	2189	2191	2064	1886	1716	1716	1566	1512	1515	1772
8 Total Generating Public Entities	1502	1501	1493	1669	1981	2189	2191	2064	1886	1716	1716	1566	1512	1515	1772
<i>-Generating Public Entities (Slice)-</i>															
9 Generating Public Entities (Slice)	1689	1424	1346	1500	1732	1735	1666	1482	1419	993	1190	1808	1422	1557	1528
10 Total Generating Public Entities (Slice)	1689	1424	1346	1500	1732	1735	1666	1482	1419	993	1190	1808	1422	1557	1528
<i>-Non-Generating Public Entities-</i>															
11 Non-Generating Public Entities	3673	3646	3377	3343	3821	4229	4285	4074	3571	3463	3463	3458	3605	3853	3727
12 Total Non-Generating Public Entities	3673	3646	3377	3343	3821	4229	4285	4074	3571	3463	3463	3458	3605	3853	3727
<i>-Non-Generating Public Entities (Slice)-</i>															
13 Non-Generating Public Entities (Slice)	414	349	330	368	425	425	408	363	348	243	292	443	348	382	374
14 Total Non-Generating Public Entities (Slice)	414	349	330	368	425	425	408	363	348	243	292	443	348	382	374
<i>-Investor-Owned Entities-</i>															
15 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
17 Other PNW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Power Sales Contracts-</i>															
19 Federal Entities	138	137	125	127	153	169	176	165	148	135	135	128	125	140	144
20 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
21 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Generating Public Entities	3191	2925	2839	3168	3713	3924	3856	3545	3304	2708	2906	3374	2933	3072	3300
23 Non-Generating Public Entities	4087	3995	3707	3711	4245	4654	4693	4437	3919	3706	3754	3902	3953	4234	4102
24 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Total Power Sales Contracts	7672	7312	6890	7100	8125	8779	8796	8227	7422	6773	7019	7692	7297	7757	7706

Table A-22: BPA Power Sale Contracts
PNW Loads and Resource Study
2015 - 2016 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	141	140	128	130	157	174	178	168	150	136	136	129	126	142	147
2 Total Federal Entities	141	140	128	130	157	174	178	168	150	136	136	129	126	142	147
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	85	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	85	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Total Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	1525	1524	1515	1722	2036	2246	2248	2057	1941	1770	1770	1619	1564	1568	1817
8 Total Generating Public Entities	1525	1524	1515	1722	2036	2246	2248	2057	1941	1770	1770	1619	1564	1568	1817
<i>-Generating Public Entities (Slice)-</i>															
9 Generating Public Entities (Slice)	1691	1426	1348	1512	1744	1691	1685	1499	1437	1083	1197	1934	1655	1623	1570
10 Total Generating Public Entities (Slice)	1691	1426	1348	1512	1744	1691	1685	1499	1437	1083	1197	1934	1655	1623	1570
<i>-Non-Generating Public Entities-</i>															
11 Non-Generating Public Entities	3739	3711	3441	3408	3891	4302	4359	4150	3655	3529	3529	3524	3672	3923	3798
12 Total Non-Generating Public Entities	3739	3711	3441	3408	3891	4302	4359	4150	3655	3529	3529	3524	3672	3923	3798
<i>-Non-Generating Public Entities (Slice)-</i>															
13 Non-Generating Public Entities (Slice)	415	350	330	371	427	414	413	367	352	265	293	474	406	398	385
14 Total Non-Generating Public Entities (Slice)	415	350	330	371	427	414	413	367	352	265	293	474	406	398	385
<i>-Investor-Owned Entities-</i>															
15 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
17 Other PNW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Power Sales Contracts-</i>															
19 Federal Entities	141	140	128	130	157	174	178	168	150	136	136	129	126	142	147
20 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	85	50	224	224	289	286	310	161
21 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Generating Public Entities	3217	2950	2863	3234	3780	3937	3933	3556	3378	2853	2967	3553	3219	3191	3387
23 Non-Generating Public Entities	4154	4061	3771	3779	4318	4717	4772	4518	4007	3795	3823	3998	4078	4321	4183
24 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Total Power Sales Contracts	7768	7407	6981	7237	8270	8859	8953	8326	7585	7008	7151	7969	7709	7964	7878

Table A-22: BPA Power Sale Contracts
PNW Loads and Resource Study
2016 - 2017 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	142	142	130	132	159	176	243	226	199	181	179	170	168	190	176
2 Total Federal Entities	142	142	130	132	159	176	243	226	199	181	179	170	168	190	176
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Total Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	1577	1578	1568	1758	2072	2280	2282	2155	1976	1807	1805	1655	1601	1605	1860
8 Total Generating Public Entities	1577	1578	1568	1758	2072	2280	2282	2155	1976	1807	1805	1655	1601	1605	1860
<i>-Generating Public Entities (Slice)-</i>															
9 Generating Public Entities (Slice)	1702	1436	1358	1511	1737	1740	1670	1487	1424	998	1201	1805	1441	1591	1537
10 Total Generating Public Entities (Slice)	1702	1436	1358	1511	1737	1740	1670	1487	1424	998	1201	1805	1441	1591	1537
<i>-Non-Generating Public Entities-</i>															
11 Non-Generating Public Entities	3792	3795	3507	3474	3958	4370	4412	4234	3718	3605	3580	3588	3737	3992	3864
12 Total Non-Generating Public Entities	3792	3795	3507	3474	3958	4370	4412	4234	3718	3605	3580	3588	3737	3992	3864
<i>-Non-Generating Public Entities (Slice)-</i>															
13 Non-Generating Public Entities (Slice)	417	352	333	370	426	427	409	364	349	245	294	442	353	390	377
14 Total Non-Generating Public Entities (Slice)	417	352	333	370	426	427	409	364	349	245	294	442	353	390	377
<i>-Investor-Owned Entities-</i>															
15 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
17 Other PNW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Power Sales Contracts-</i>															
19 Federal Entities	142	142	130	132	159	176	243	226	199	181	179	170	168	190	176
20 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
21 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Generating Public Entities	3279	3014	2926	3269	3809	4021	3952	3641	3399	2805	3006	3460	3043	3196	3398
23 Non-Generating Public Entities	4209	4147	3840	3844	4384	4796	4822	4598	4067	3850	3874	4030	4091	4382	4240
24 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Total Power Sales Contracts	7887	7559	7114	7339	8366	9024	9088	8544	7715	7060	7283	7950	7587	8079	7975

Table A-22: BPA Power Sale Contracts
PNW Loads and Resource Study
2017 - 2018 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	187	187	171	175	215	239	245	227	200	181	182	172	169	192	198
2 Total Federal Entities	187	187	171	175	215	239	245	227	200	181	182	172	169	192	198
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Total Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	1615	1615	1605	1804	2118	2327	2329	2201	2022	1851	1853	1701	1647	1651	1905
8 Total Generating Public Entities	1615	1615	1605	1804	2118	2327	2329	2201	2022	1851	1853	1701	1647	1651	1905
<i>-Generating Public Entities (Slice)-</i>															
9 Generating Public Entities (Slice)	1705	1439	1361	1514	1762	1709	1703	1518	1444	1095	1215	1941	1662	1629	1582
10 Total Generating Public Entities (Slice)	1705	1439	1361	1514	1762	1709	1703	1518	1444	1095	1215	1941	1662	1629	1582
<i>-Non-Generating Public Entities-</i>															
11 Non-Generating Public Entities	3860	3863	3572	3536	4027	4444	4505	4307	3788	3648	3674	3656	3807	4065	3935
12 Total Non-Generating Public Entities	3860	3863	3572	3536	4027	4444	4505	4307	3788	3648	3674	3656	3807	4065	3935
<i>-Non-Generating Public Entities (Slice)-</i>															
13 Non-Generating Public Entities (Slice)	418	353	334	371	432	419	417	372	354	268	298	476	407	399	388
14 Total Non-Generating Public Entities (Slice)	418	353	334	371	432	419	417	372	354	268	298	476	407	399	388
<i>-Investor-Owned Entities-</i>															
15 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
17 Other PNW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Power Sales Contracts-</i>															
19 Federal Entities	187	187	171	175	215	239	245	227	200	181	182	172	169	192	198
20 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
21 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Generating Public Entities	3319	3054	2966	3318	3880	4036	4031	3719	3466	2947	3068	3643	3309	3281	3487
23 Non-Generating Public Entities	4278	4216	3905	3907	4459	4863	4922	4679	4142	3916	3971	4132	4214	4465	4322
24 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Total Power Sales Contracts	8040	7713	7260	7494	8568	9169	9269	8705	7859	7268	7445	8235	7978	8247	8167

Table A-22: BPA Power Sale Contracts
PNW Loads and Resource Study
2018 - 2019 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	189	189	172	176	217	241	248	230	203	183	183	174	171	194	200
2 Total Federal Entities	189	189	172	176	217	241	248	230	203	183	183	174	171	194	200
<i>-U.S. Bureau of Reclamation-</i>															
3 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
4 Total U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
<i>-Direct Service Industry-</i>															
5 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Total Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Generating Public Entities-</i>															
7 Generating Public Entities	1661	1661	1651	1849	2163	2372	2374	2247	2067	1897	1897	1746	1692	1696	1950
8 Total Generating Public Entities	1661	1661	1651	1849	2163	2372	2374	2247	2067	1897	1897	1746	1692	1696	1950
<i>-Generating Public Entities (Slice)-</i>															
9 Generating Public Entities (Slice)	1708	1442	1364	1517	1765	1768	1698	1514	1440	1015	1218	1797	1447	1611	1552
10 Total Generating Public Entities (Slice)	1708	1442	1364	1517	1765	1768	1698	1514	1440	1015	1218	1797	1447	1611	1552
<i>-Non-Generating Public Entities-</i>															
11 Non-Generating Public Entities	3931	3935	3640	3605	4100	4522	4582	4366	3858	3729	3729	3724	3878	4140	4005
12 Total Non-Generating Public Entities	3931	3935	3640	3605	4100	4522	4582	4366	3858	3729	3729	3724	3878	4140	4005
<i>-Non-Generating Public Entities (Slice)-</i>															
13 Non-Generating Public Entities (Slice)	419	354	334	372	433	433	416	371	353	249	298	440	355	395	381
14 Total Non-Generating Public Entities (Slice)	419	354	334	372	433	433	416	371	353	249	298	440	355	395	381
<i>-Investor-Owned Entities-</i>															
15 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Total Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Other Entities-</i>															
17 Other PNW Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Total Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>-Power Sales Contracts-</i>															
19 Federal Entities	189	189	172	176	217	241	248	230	203	183	183	174	171	194	200
20 U.S. Bureau of Reclamation	256	256	219	94	14	31	70	79	50	224	224	289	286	310	161
21 Direct Service Industry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Generating Public Entities	3369	3103	3015	3366	3928	4141	4072	3761	3507	2912	3115	3543	3140	3307	3503
23 Non-Generating Public Entities	4350	4288	3975	3977	4532	4955	4998	4737	4211	3978	4028	4164	4233	4534	4386
24 Investor-Owned Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Other Entities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Total Power Sales Contracts	8163	7836	7380	7613	8691	9368	9389	8807	7971	7298	7550	8170	7829	8345	8248

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Table A-23
Non-Utility Generating Resources by Owner
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-23: Regional NUG Resources By Owner
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	27	26	9.2	13	27	30	30	26	25	45	45	41	27	19	26
2 Total Federal Entities	27	26	9.2	13	27	30	30	26	25	45	45	41	27	19	26
<i>-Generating Public Entities-</i>															
3 Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
4 Total Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
<i>-Non-Generating Public Entities-</i>															
5 Non-Generating Public Entities	2.2	2.2	2.2	2.2	2.4	2.7	2.7	2.6	2.6	2.6	2.6	2.4	2.3	2.2	2.4
6 Total Non-Generating Public Entities	2.2	2.2	2.2	2.2	2.4	2.7	2.7	2.6	2.6	2.6	2.6	2.4	2.3	2.2	2.4
<i>-Investor-Owned Entities-</i>															
7 Investor-Owned Entities	493	494	453	430	449	440	431	434	455	491	485	547	562	530	476
8 Total Investor-owned Entities	493	494	453	430	449	440	431	434	455	491	485	547	562	530	476
<i>-Other Entities-</i>															
9 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.5
10 Total Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.5
<i>-Total Non-Utility Generating Resources-</i>															
11 Federal Entities	27	26	9.2	13	27	30	30	26	25	45	45	41	27	19	26
12 Public Entities	188	186	134	78	39	38	34	38	33	130	130	219	235	246	118
13 Investor-Owned Entities	493	494	453	430	449	440	431	434	455	491	485	547	562	530	476
14 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.5
15 Total Non-Utility Generation	717	714	605	529	515	509	496	499	514	667	669	816	833	804	626

Table A-23: Regional NUG Resources By Owner
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	27	26	9.2	13	27	30	30	26	25	45	45	41	27	19	26
2 Total Federal Entities	27	26	9.2	13	27	30	30	26	25	45	45	41	27	19	26
<i>-Generating Public Entities-</i>															
3 Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
4 Total Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
<i>-Non-Generating Public Entities-</i>															
5 Non-Generating Public Entities	2.2	2.2	2.2	2.2	2.4	2.7	2.7	2.6	2.6	2.6	2.6	2.4	2.3	2.2	2.4
6 Total Non-Generating Public Entities	2.2	2.2	2.2	2.2	2.4	2.7	2.7	2.6	2.6	2.6	2.6	2.4	2.3	2.2	2.4
<i>-Investor-Owned Entities-</i>															
7 Investor-Owned Entities	493	493	450	428	450	441	432	435	457	492	486	542	549	525	475
8 Total Investor-owned Entities	493	493	450	428	450	441	432	435	457	492	486	542	549	525	475
<i>-Other Entities-</i>															
9 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.5
10 Total Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.5
<i>-Total Non-Utility Generating Resources-</i>															
11 Federal Entities	27	26	9.2	13	27	30	30	26	25	45	45	41	27	19	26
12 Public Entities	188	186	134	78	39	38	34	38	33	130	130	219	235	246	118
13 Investor-Owned Entities	493	493	450	428	450	441	432	435	457	492	486	542	549	525	475
14 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.5
15 Total Non-Utility Generation	717	714	602	528	517	509	497	500	516	668	670	812	820	799	624

Table A-23: Regional NUG Resources By Owner
 PNW Loads and Resource Study
 2011 - 2012 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	27	26	9.2	13	27	30	18	8.9	2.8	2.8	2.8	2.8	2.8	2.8	12
2 Total Federal Entities	27	26	9.2	13	27	30	18	8.9	2.8	2.8	2.8	2.8	2.8	2.8	12
<i>-Generating Public Entities-</i>															
3 Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	115
4 Total Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	115
<i>-Non-Generating Public Entities-</i>															
5 Non-Generating Public Entities	2.2	2.2	2.2	2.2	2.4	2.7	19	19	19	19	19	18	18	18	12
6 Total Non-Generating Public Entities	2.2	2.2	2.2	2.2	2.4	2.7	19	19	19	19	19	18	18	18	12
<i>-Investor-Owned Entities-</i>															
7 Investor-Owned Entities	493	493	452	428	450	441	417	419	440	476	470	526	533	509	465
8 Total Investor-owned Entities	493	493	452	428	450	441	417	419	440	476	470	526	533	509	465
<i>-Other Entities-</i>															
9 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.4
10 Total Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.4
<i>-Total Non-Utility Generating Resources-</i>															
11 Federal Entities	27	26	9.2	13	27	30	18	8.9	2.8	2.8	2.8	2.8	2.8	2.8	12
12 Public Entities	188	186	134	78	39	38	50	54	49	146	146	235	251	262	127
13 Investor-Owned Entities	493	493	452	428	450	441	417	419	440	476	470	526	533	509	465
14 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.4
15 Total Non-Utility Generation	717	714	603	528	517	509	487	484	493	626	628	773	797	783	610

Table A-23: Regional NUG Resources By Owner
 PNW Loads and Resource Study
 2012 - 2013 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
2 Total Federal Entities	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
<i>-Generating Public Entities-</i>															
3 Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
4 Total Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
<i>-Non-Generating Public Entities-</i>															
5 Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
6 Total Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
<i>-Investor-Owned Entities-</i>															
7 Investor-Owned Entities	478	478	436	412	435	426	418	419	440	476	470	525	541	510	460
8 Total Investor-owned Entities	478	478	436	412	435	426	418	419	440	476	470	525	541	510	460
<i>-Other Entities-</i>															
9 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.5
10 Total Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.5
<i>-Total Non-Utility Generating Resources-</i>															
11 Federal Entities	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
12 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
13 Investor-Owned Entities	478	478	436	412	435	426	418	419	440	476	470	525	541	510	460
14 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.5
15 Total Non-Utility Generation	694	692	597	518	493	484	472	477	493	626	628	772	804	784	602

Table A-23: Regional NUG Resources By Owner
 PNW Loads and Resource Study
 2013 - 2014 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
2 Total Federal Entities	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
<i>-Generating Public Entities-</i>															
3 Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
4 Total Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
<i>-Non-Generating Public Entities-</i>															
5 Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
6 Total Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
<i>-Investor-Owned Entities-</i>															
7 Investor-Owned Entities	478	479	436	413	435	426	418	420	441	477	470	525	533	499	458
8 Total Investor-owned Entities	478	479	436	413	435	426	418	420	441	477	470	525	533	499	458
<i>-Other Entities-</i>															
9 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	19	6.3
10 Total Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	19	6.3
<i>-Total Non-Utility Generating Resources-</i>															
11 Federal Entities	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
12 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
13 Investor-Owned Entities	478	479	436	413	435	426	418	420	441	477	470	525	533	499	458
14 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	19	6.3
15 Total Non-Utility Generation	694	693	598	519	494	484	472	478	494	627	628	772	796	782	602

Table A-23: Regional NUG Resources By Owner
 PNW Loads and Resource Study
 2014 - 2015 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
2 Total Federal Entities	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
<i>-Generating Public Entities-</i>															
3 Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
4 Total Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
<i>-Non-Generating Public Entities-</i>															
5 Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
6 Total Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
<i>-Investor-Owned Entities-</i>															
7 Investor-Owned Entities	468	470	428	405	427	418	411	412	434	469	462	519	526	501	451
8 Total Investor-owned Entities	468	470	428	405	427	418	411	412	434	469	462	519	526	501	451
<i>-Other Entities-</i>															
9 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
10 Total Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
<i>-Total Non-Utility Generating Resources-</i>															
11 Federal Entities	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
12 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
13 Investor-Owned Entities	468	470	428	405	427	418	411	412	434	469	462	519	526	501	451
14 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
15 Total Non-Utility Generation	694	693	599	520	496	486	474	480	496	629	630	775	799	784	603

Table A-23: Regional NUG Resources By Owner
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	2.8	2.8	2.8	53	53	53	53	53	53	53	53	53	53	53	44
2 Total Federal Entities	2.8	2.8	2.8	53	53	53	53	53	53	53	53	53	53	53	44
<i>-Generating Public Entities-</i>															
3 Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	115
4 Total Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	115
<i>-Non-Generating Public Entities-</i>															
5 Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
6 Total Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
<i>-Investor-Owned Entities-</i>															
7 Investor-Owned Entities	468	470	428	403	426	419	410	413	434	469	463	519	526	501	451
8 Total Investor-owned Entities	468	470	428	403	426	419	410	413	434	469	463	519	526	501	451
<i>-Other Entities-</i>															
9 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
10 Total Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
<i>-Total Non-Utility Generating Resources-</i>															
11 Federal Entities	2.8	2.8	2.8	53	53	53	53	53	53	53	53	53	53	53	44
12 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
13 Investor-Owned Entities	468	470	428	403	426	419	410	413	434	469	463	519	526	501	451
14 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
15 Total Non-Utility Generation	694	693	599	568	545	536	524	531	546	679	680	825	849	834	645

Table A-23: Regional NUG Resources By Owner
 PNW Loads and Resource Study
 2016 - 2017 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
2 Total Federal Entities	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
<i>-Generating Public Entities-</i>															
3 Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
4 Total Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
<i>-Non-Generating Public Entities-</i>															
5 Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
6 Total Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
<i>-Investor-Owned Entities-</i>															
7 Investor-Owned Entities	469	470	428	403	427	418	410	412	434	469	463	519	526	501	451
8 Total Investor-owned Entities	469	470	428	403	427	418	410	412	434	469	463	519	526	501	451
<i>-Other Entities-</i>															
9 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
10 Total Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
<i>-Total Non-Utility Generating Resources-</i>															
11 Federal Entities	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
12 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
13 Investor-Owned Entities	469	470	428	403	427	418	410	412	434	469	463	519	526	501	451
14 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
15 Total Non-Utility Generation	745	744	649	568	545	535	524	530	546	679	680	825	849	834	653

Table A-23: Regional NUG Resources By Owner
 PNW Loads and Resource Study
 2017 - 2018 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
2 Total Federal Entities	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
<i>-Generating Public Entities-</i>															
3 Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
4 Total Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
<i>-Non-Generating Public Entities-</i>															
5 Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
6 Total Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
<i>-Investor-Owned Entities-</i>															
7 Investor-Owned Entities	469	470	428	403	427	418	410	412	434	469	463	519	526	501	451
8 Total Investor-owned Entities	469	470	428	403	427	418	410	412	434	469	463	519	526	501	451
<i>-Other Entities-</i>															
9 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
10 Total Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
<i>-Total Non-Utility Generating Resources-</i>															
11 Federal Entities	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
12 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
13 Investor-Owned Entities	469	470	428	403	427	418	410	412	434	469	463	519	526	501	451
14 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
15 Total Non-Utility Generation	745	744	649	568	545	535	524	530	546	679	680	825	849	834	653

Table A-23: Regional NUG Resources By Owner
 PNW Loads and Resource Study
 2018 - 2019 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Federal Entities-</i>															
1 Federal Entities	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
2 Total Federal Entities	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
<i>-Generating Public Entities-</i>															
3 Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
4 Total Generating Public Entities	186	184	131	76	36	35	31	36	30	127	127	217	233	244	116
<i>-Non-Generating Public Entities-</i>															
5 Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
6 Total Non-Generating Public Entities	18	18	18	18	18	19	19	19	19	19	19	18	18	18	18
<i>-Investor-Owned Entities-</i>															
7 Investor-Owned Entities	469	470	428	403	427	418	413	415	437	463	461	517	509	499	450
8 Total Investor-owned Entities	469	470	428	403	427	418	413	415	437	463	461	517	509	499	450
<i>-Other Entities-</i>															
9 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
10 Total Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
<i>-Total Non-Utility Generating Resources-</i>															
11 Federal Entities	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
12 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
13 Investor-Owned Entities	469	470	428	403	427	418	413	415	437	463	461	517	509	499	450
14 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
15 Total Non-Utility Generation	745	744	649	568	545	535	527	533	549	672	678	823	832	833	652

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Table A-24
Non-Utility Generating Resources by Project
and Project Type
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-NUG: Hydro-</i>															
1 Albany	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2 Barber Dam	2.4	2.4	1.9	0.8	0.3	1.0	2.2	2.6	3.3	3.2	3.2	3.1	3.2	3.3	2.3
3 Barney Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Beaverton	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0
5 Bell Mountain	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
6 Big Sheep Creek	0	0	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
7 Bingham Engineering	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1
8 Birch Creek (Clark County)	0	0	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0
9 Birch Creek (Gooding County)	1.3	1.3	1.1	1.0	1.1	1.1	0.3	1.2	1.7	1.6	1.6	1.6	1.3	1.2	1.2
10 Black Canyon #3	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11 Black Creek	2.8	2.8	1.9	2.5	3.4	3.4	3.4	3.1	3.7	3.4	3.1	3.1	2.8	3.1	3
12 Blind Canyon Hydro	0.7	0.7	1.1	0.9	0.2	0	0	0	0	0.6	0.6	1.6	1.0	0.7	0.6
13 Boulder Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 Box Canyon	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
15 Briggs Creek	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16 Broadwater Dam	1.1	1.1	1.5	1.9	1.5	1.2	1.2	1.3	1.3	1.9	1.8	3.1	3.3	2.0	1.8
17 Buffalo Hydro	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18 Burr & Bouchard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Bypass	8.3	8.3	6.5	2.8	1.0	0	0	0	0.1	2.9	2.9	7	8.2	8.7	3.8
20 Canyon Springs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 Carlton	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0	0	0	0
22 Cascade Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Cedar Draw	0.3	0.3	0.9	0.9	0.9	1.2	1.2	1.3	0.4	0.4	0.4	0.4	0.3	0.3	0.7
24 Central OR Irrigation District	3.1	3.1	3.7	3.5	0	0.7	0	0.4	0.9	0.8	0.8	4.5	3.8	4.1	2.1
25 Clear Springs Trout	0.4	0.4	0.4	0.5	0.6	0.6	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4
26 Cornelius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Cowiche	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
28 Crystal Springs	1.3	1.3	1.6	1.5	1.6	0.5	0.5	0.6	0.8	0.9	0.9	0.8	1.4	1.3	1.1
29 Curry Cattle Co.	0.2	0.2	0.2	0.1	0.1	0	0	0	0.1	0.1	0.1	0.2	0.2	0.2	0.1
30 Curtiss Livestock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Dairy Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Deep Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Derr Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1
34 Dietrich Drop	4.7	4.7	3.6	3.1	1.4	0	0	0	0	3.1	3.1	4.7	4.7	4.5	2.5
35 Don Steffen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Donald Jenni	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0.1
37 Dworshak/Clearwater Small Hydropower	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
38 Eagle Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Elk Creek	1.2	1.2	0	0	0	0.1	0.1	0.1	1	1	1	1	1.2	1.2	0.6
40 Eltopia Br Canal 4.6	1.8	1.8	1.2	0.6	0	0	0	0	0	1.4	1.4	2	2	2.2	0.9
41 Elwha Hydro	8.2	7.7	2.3	3.6	9.5	11	12	9.1	8.8	17	17	9.0	8.5	5.4	8.6
42 Estacada	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
43 Fall Creek (OR)	0	0	0	0	1.9	3.1	0.9	2.7	2.7	4.4	4.4	4.1	3.8	0	1.9
44 Falls Creek (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Falls River	6.5	6.5	6.3	5.7	5.6	5.0	4.2	3.8	3.8	6.2	6.2	7.9	8.5	7.1	5.9
46 Farmers Irrig.	0.6	0.6	0.7	1.2	3.2	3.2	2.1	4.6	3.3	3.5	3.5	4.7	0.8	0.7	2.4
47 Faulkner Ranch	0.8	0.8	0.7	0.7	0.7	0.3	0.3	0.3	0.5	0.6	0.6	0.5	0.8	0.8	0.6
48 Fisheries Development Co	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3
49 Galesville Dam	0.6	0.6	0.4	0.2	0.2	0.3	0	0.2	0.3	0.4	0.4	0.3	0.4	0.5	0.3
50 Geobon 2	1.0	1.0	0.3	0.3	0.3	0.2	0.2	0.3	0.6	0.6	0.6	0.6	1.0	1.0	0.5
51 Georgetown Power	0	0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0	0.2
52 Glines Canyon Hydro	16	15	4.1	6.7	14	16	15	14	14	25	25	30	16	11	15
53 Hailey Csp	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
54 Hazelton A	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
55 Hazelton B	6.6	6.6	5.2	2.4	0.7	0	0	0	0.1	2.2	2.2	5.6	6.4	7.0	3
56 Horseshoe Bend Hydro	8.8	8.8	7.5	3.9	2.8	3.5	3.9	4.6	5.9	8.8	8.8	9.9	9.8	9.2	6.6
57 Hutchinson Creek	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
58 Ingram Warm Springs	0.2	0.2	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4
59 Jim Ford Creek	0	0	0	0	0.3	0.5	0.9	0.9	1.1	1.1	1.1	0.7	0.3	0.1	0.5
60 Jim Knight	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.4	0.2
61 John Day Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
62 Kasel & Witherspoon	0.9	0.9	0.9	0.6	0.4	0.2	0.2	0.2	0.3	0.4	0.4	0.8	0.9	0.8	0.5
63 Kevin Duncan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
64 Koma Kulshan	4.6	4.6	4.3	6.4	8	6.1	3.9	3.8	4.4	6.9	6.9	9.4	10	8.2	6.4
65 Koyle	1.1	1.1	1.1	1.0	1	0.2	0.1	0.1	0.3	0.8	0.8	1.2	0.8	0.9	0.7
66 L. Fery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Lacombe Irrig.	0	0	0	0	0.2	1.0	0.2	0.9	0.9	1	1	0.9	0.9	0.4	0.5
68 Lake Oswego	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
69 Lateral #10	1.2	1.2	1.3	1.6	1.7	1.2	1.2	1.3	1.4	1.5	1.5	1.4	1.3	1.2	1.4
70 Lee Tavenner	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
71 Lemoyne	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
72 Lilliwaup Falls Generating Co.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73 Little Mac	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
74 Little Wood River Res.	1.9	1.9	0.2	0.2	0.2	0	0	0	1.6	1.7	1.7	1.6	2	1.9	1.0
75 Littlewood/Arkoosh	0.7	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.5	0.5	0.4	0.8	0.7	0.5
76 Low Line Canal Drop	7.8	7.8	7.5	7.3	7.5	0.6	0.6	0.7	5.3	5.5	5.5	5.3	8.1	7.8	5.3
77 Low Line Midway	2	2	0	0	0	0	0	0	0	0	0	0	2	2	0.5
78 Lower Low Line #2	2.7	2.7	2.5	1.8	1.4	0	0	0.7	1.9	2.5	2.5	2.7	2.7	2.7	1.8
79 Lucky Peak	29	27	20	4.5	0	0.7	0	1.5	1.6	11	11	68	75	73	24
80 Magic Reservoir	6.8	6.8	4.4	0.5	0.2	0.1	0.3	0.1	0.9	3.0	3.0	8.3	9.1	9.0	3.6
81 Main Canal Headworks	20	20	12	5.2	0	0	0	0	2.8	14	14	18	21	24	9.8
82 Malad River	0.5	0.5	0.6	0.5	0.5	0.1	0.1	0	0.2	0.4	0.4	0.6	0.4	0.5	0.4
83 Marco Ranches	1.1	1.1	1.2	1.1	1.2	0	0	0	1.1	1.2	1.2	1.1	1.2	1.1	0.9
84 Marsh Valley	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
85 Meyers Falls	1	1	0.9	0.6	0.9	0.9	0.6	0.8	1.1	1.1	1.1	1	1.2	1.1	0.9
86 Middle Fork Irrig.	1.8	1.8	0.8	1.2	1.3	1.7	2.7	3.1	3.1	2.9	2.9	2.8	2.4	2.0	2.2
87 Mile 28	1.3	1.3	1.2	0.7	0.2	0	0	0	0	0.6	0.6	1.2	1.3	1.4	0.7
88 Mill Creek (OR) - City of Cove	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
89 Minikahda	0	0	0	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	0
90 Mink Creek	1.2	1.2	0.8	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.4	1.6	2.7	1.6	0.9
91 Mitchell Butte	1	1	1.1	0.4	0	0	0	0	0.3	0.8	0.8	1.2	1.3	1.1	0.6
92 Mora Canal Drop	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
93 Mountain Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94 Mt. Tabor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
95 Mud Creek/S&S	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4
96 Mud Creek/White	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1
97 Nichols Gap	0	0	0	0	0.4	0.6	0.2	0.5	0.6	0.4	0.4	0	0	0	0.2
98 Nicholson Sunnybar	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
99 North Fork Sprague	0	0	0.1	0	0	0	0.1	0.3	0.2	0.3	0.3	0.9	0.4	0.1	0.2
100 O.J. Power	0	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
101 Odell Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102 Opal Springs	2.6	2.6	3.0	3.6	3.2	2.9	2.9	3.5	2.6	2.7	2.7	4.5	1.6	2.2	2.9
103 Orchard Avenue	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
104 Owyhee Dam	2.8	2.8	2.0	0.6	0	0	0.2	0.6	1.8	3.3	3.3	3.9	3.3	3.2	1.8
105 PEC Headworks	4.5	4.5	3.1	2.2	0	0	0	0	0.4	5.1	5.1	6.5	6.2	5.8	2.8
106 Phillips Ranch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Phillipsburg	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0
108 Pickering Micro Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109 Pigeon Cove	2.0	2.0	2.1	1.3	0.8	0.4	0.3	0.4	0.6	0.8	0.8	1.7	1.9	1.7	1.2
110 Pine Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
111 Portland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112 Portland Hydro Project	2.3	2.3	2.9	6.7	16	20	18	17	16	17	17	15	8.4	3.2	12
113 Portneuf River	0.2	0.2	0.1	0	0.1	0.1	0	0	0	0	0	0.2	0.6	0.4	0.2
114 Potholes E Canal 66.0	1.8	1.8	1.8	1.6	0	0	0	0	0.6	1.8	1.8	1.8	1.8	1.8	1.1
115 Preston City	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4
116 Pristine Springs	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
117 Pristine Springs #3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
118 Quincy Chute	7.7	7.7	4	2.3	0	0	0	0	0.8	5.5	5.5	7.1	8.4	8.5	3.7
119 Reynolds Irrigation	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
120 Rim View	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
121 Rock Creek #1	1.1	1.1	1.6	1.7	1.2	1.3	1.1	1.0	1.1	1.4	1.4	1.5	1.3	1.1	1.3
122 Rock Creek #2	1.8	1.8	1.8	1.9	1.9	1.9	0.6	0.4	1.6	1.9	1.9	1.9	1.9	1.6	1.6
123 Rocky Brook	0	0	0	0	0.2	0.6	0.6	0.4	0.5	0.5	0.5	0.2	0.1	0	0.3
124 Russel D. Smith	4	4	2.6	1.4	0	0	0	0	0.2	2.4	2.4	3.8	4.2	3.4	1.8
125 Sagebrush	0.4	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.4	0.4	0.3
126 Sahko	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
127 Salem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128 Schaffner	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.3

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2009 - 2010 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
129 Sheep Creek	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.9	1.6	1.6	0.8	1.5	1.1	0.7
130 Shingle Creek	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
131 Shoshone	0.3	0.3	0.3	0.3	0.3	0	0	0	0.1	0.2	0.2	0.4	0.2	0.3	0.2
132 Shoshone II	0.6	0.6	0.6	0	0	0	0	0	0	0.3	0.3	0.5	0.6	0.6	0.3
133 Snake River Pottery	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
134 Snedigar Ranch	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2
135 Solar Research	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0
136 South Dry Creek	0.5	0.5	0.5	0.5	0	0	0	0	0.4	0.3	0.3	0.6	0.6	0.5	0.3
137 Spokane Upriver	3.4	3.4	3.4	4.7	6.7	13	14	13	14	13	13	11	12	8.4	9.7
138 Stauffer Dry Creek	0.9	0.9	1	0.8	0.4	0	0.3	0.3	0.4	0.4	0.4	0.9	2.7	2.1	0.9
139 Strawberry Creek	0.1	0.1	0.1	0.1	0	0	0.1	0	0	0	0	0.1	0.1	0.1	0.1
140 Summer Falls	79	79	48	22	0	0	0	0	4.8	50	50	71	81	87	37
141 Sunshine Power #2	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
142 Sygitowicz Creek Small Hydro	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
143 Thomas Burnside	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144 Tiber Dam Liberty Montana	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
145 Tieton (Yakima)	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
146 Trout Co.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
147 Tunnel #1	4.3	4.3	2.6	0.5	0	0	0	0	2.4	5.1	5.1	5.8	5.8	5.9	2.7
148 Twin Falls	5	5	0	1.2	9.6	7.9	7.4	4.8	7.8	15	15	13	24	19	9.6
149 Walla Walla	1.5	1.5	1.4	1.3	1.2	1.3	1.2	1.5	1.8	1.8	1.8	1.5	1.5	1.8	1.5
150 Water Street / Santiam	0	0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
151 Weeks Falls	0.8	0.8	0	0.2	1.7	1.8	1.2	0.6	1.2	2.6	2.6	2.4	4.4	3.5	1.7
152 White Water Ranch	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
153 Wilson Lake Hydro	7.1	7.1	5.3	2.0	0.2	0	0	0	0	2.3	2.3	6.1	6.8	7.6	3.1
154 Wisconsin Creek	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0.1	0	0
155 Woods Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
156 Total NUG: Hydro	340	337	242	169	142	137	126	128	161	307	316	438	458	430	258
-NUG: Small Thermal & Misc.-															
157 Covanta Marion Solid Waste	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
158 Methane Energy Agricultural D.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
159 Montana One	9.3	9.5	8.8	8.9	6.7	7.5	7.8	7.4	6.4	6.3	6.2	10	11	8.5	8.3
160 Pocatello Waste	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
161 Spokane MSW	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
162 Treasure Valley	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
163 West Boise Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164 Total NUG: Small Thermal & Misc.	39	39	38	38	36	37	37	37	36	35	35	39	40	38	37
-NUG: Co-Generation-															
165 Billings Generation	17	17	16	11	12	14	14	14	12	7.3	7.2	19	20	16	14
166 Biomass One	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
167 Boise Cascade Medford	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168 Champion	3.3	3.3	3.3	3.3	3.3	3.3	1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1
169 Cogen Co	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
170 DR Johnson - Co-Gen II	6.0	6.0	5.8	6.0	5.8	6.0	6.0	5.4	6.0	7.2	0	6.0	5.8	6.0	5.7
171 Everett Cogen Project (Kimberly Clark)	38	38	38	36	36	34	31	34	19	36	36	38	33	38	34
172 Evergreen Biopower Cogen (Freres)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
173 Glenns Ferry Cogen Facility (Magic West)	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
174 March Point #1	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
175 March Point #2	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
176 Metro Westpoint	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
177 Pottlatch Contract Renewal	50	50	37	42	53	51	53	51	50	44	44	46	46	47	48
178 Rough & Ready Lumber	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
179 Rupert Cogen Facility (Magic Valley)	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
180 Simplot Pocatello	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
181 Stimson Lumber (formerly Haley West)	4.4	4.4	4.3	4.0	4.5	4.1	4.2	4.4	4.5	4.3	4.3	4.1	4	4	4.2
182 Sumas Compression Station	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
183 Tamarack	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
184 TASCO Nampa ID	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
185 TASCO Twin Falls ID	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
186 Vaagen Bros.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
187 Warm Springs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Table A-24: Regional NUG Resources By Project And Project Type
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
188 Total NUG: Co-Generation	317	317	303	300	312	310	308	309	293	300	292	314	310	311	307
<i>-NUG: Renewables-</i>															
189 Ashland Solar Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190 Bettencourt Dairy (Cargill)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
191 Big Sky Dairy	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
192 Chinook Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
193 DeRuyter & Son's Dairy	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
194 Dry Creek Landfill (NUG Renewable)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
195 Emmett Biomass Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
196 Finley Buttes BioEnergy	0	0	0	0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.2
197 Healow #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
198 Hidden Hollow Landfill	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
199 Josef Staufer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200 Lewandowski Farms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201 Livingston	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
202 Pine Products Corp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
203 Portland Waste Water	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
204 Puyallup Energy Recovery (PERC)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
205 Qualco Dairy Digester	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
206 Raft River Geothermal Phase 1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
207 VanderHaak Dairy	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
208 White Bluffs Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209 Wild Horse Solar	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
210 Windmill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
211 Total NUG: Renewables	22	22	22	22	25	25	25	25	25	25	25	25	25	25	24
<i>-Total Non-Utility Generating Resources-</i>															
212 Federal Entities	27	26	9.2	13	27	30	30	26	25	45	45	41	27	19	26
213 Public Entities	188	186	134	78	39	38	34	38	33	130	130	219	235	246	118
214 Investor-Owned Entities	493	494	453	430	449	440	431	434	455	491	485	547	562	530	476
215 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.5
216 Total Non-Utility Generation	717	714	605	529	515	509	496	499	514	667	669	816	833	804	626

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-NUG: Hydro-</i>															
1 Albany	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2 Barber Dam	2.4	2.4	1.9	0.8	0.3	1.0	2.2	2.6	3.3	3.2	3.2	3.1	3.2	3.3	2.3
3 Barney Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Beaverton	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0
5 Bell Mountain	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
6 Big Sheep Creek	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
7 Bingham Engineering	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8 Birch Creek (Clark County)	0	0	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0
9 Birch Creek (Gooding County)	1.3	1.3	1.1	1.0	1.1	1.1	0.3	1.2	1.7	1.6	1.6	1.6	1.3	1.2	1.2
10 Black Canyon #3	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11 Black Creek	3.1	2.8	1.9	2.8	2.8	1.9	2.5	3.4	3.4	3.4	3.1	3.7	3.4	3.1	2.9
12 Blind Canyon Hydro	0.7	0.7	1.1	0.9	0.2	0	0	0	0	0.6	0.6	1.6	1.0	0.7	0.6
13 Boulder Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 Box Canyon	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
15 Briggs Creek	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16 Broadwater Dam	1.1	1.1	1.5	1.9	2	1.6	1.5	1.7	1.7	2.7	2.6	3.1	2.6	2.0	1.9
17 Buffalo Hydro	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18 Burr & Bouchard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Bypass	8.3	8.3	6.5	2.8	1.0	0	0	0	0.1	2.9	2.9	7	8.2	8.7	3.8
20 Canyon Springs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 Carlton	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0	0	0	0
22 Cascade Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Cedar Draw	0.3	0.3	0.9	0.9	0.9	1.2	1.2	1.3	0.4	0.4	0.4	0.4	0.3	0.3	0.7
24 Central OR Irrigation District	3.1	3.1	3.7	3.5	0	0.7	0	0.4	0.9	0.8	0.8	4.5	3.8	4.1	2.1
25 Clear Springs Trout	0.4	0.4	0.4	0.5	0.6	0.6	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4
26 Cornelius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Cowiche	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
28 Crystal Springs	1.3	1.3	1.6	1.5	1.6	0.5	0.5	0.6	0.8	0.9	0.9	0.8	1.4	1.3	1.1
29 Curry Cattle Co.	0.2	0.2	0.2	0.1	0.1	0	0	0	0.1	0.1	0.1	0.2	0.2	0.2	0.1
30 Curtiss Livestock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Dairy Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Deep Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Derr Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1
34 Dietrich Drop	4.7	4.7	3.6	3.1	1.4	0	0	0	0	3.1	3.1	4.7	4.7	4.5	2.5
35 Don Steffen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Donald Jenni	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
37 Dworshak/Clearwater Small Hydropower	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
38 Eagle Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Elk Creek	1.2	1.2	0	0	0	0.1	0.1	0.1	1	1	1	1	1.2	1.2	0.6
40 Eltopia Br Canal 4.6	1.8	1.8	1.2	0.6	0	0	0	0	0	1.4	1.4	2	2	2.2	0.9
41 Elwha Hydro	8.2	7.7	2.3	3.6	9.5	11	12	9.1	8.8	17	17	9.0	8.5	5.4	8.6
42 Estacada	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
43 Fall Creek (OR)	0	0	0	0	1.9	3.1	0.9	2.7	2.7	4.4	4.4	4.1	3.8	0	1.9
44 Falls Creek (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Falls River	6.5	6.5	6.3	5.7	5.6	5.0	4.2	3.8	3.8	6.2	6.2	7.9	8.5	7.1	5.9
46 Farmers Irrig.	0.6	0.6	0.7	1.2	3.2	3.2	2.1	4.6	3.3	3.5	3.5	4.7	0.8	0.7	2.4
47 Faulkner Ranch	0.8	0.8	0.7	0.7	0.7	0.3	0.3	0.3	0.5	0.6	0.6	0.5	0.8	0.8	0.6
48 Fisheries Development Co	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3
49 Galesville Dam	0.6	0.6	0.4	0.2	0.2	0.3	0	0.2	0.3	0.4	0.4	0.3	0.4	0.5	0.3
50 Geobon 2	1.0	1.0	0.3	0.3	0.3	0.2	0.2	0.3	0.6	0.6	0.6	0.6	1.0	1.0	0.5
51 Georgetown Power	0	0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0	0.2
52 Glines Canyon Hydro	16	15	4.1	6.7	14	16	15	14	14	25	25	30	16	11	15
53 Hailey Cssp	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
54 Hazelton A	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
55 Hazelton B	6.6	6.6	5.2	2.4	0.7	0	0	0	0.1	2.2	2.2	5.6	6.4	7.0	3
56 Horseshoe Bend Hydro	8.8	8.8	7.5	3.9	2.8	3.5	3.9	4.6	5.9	8.8	8.8	9.9	9.8	9.2	6.6
57 Hutchinson Creek	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
58 Ingram Warm Springs	0.2	0.2	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4
59 Jim Ford Creek	0	0	0	0	0.3	0.5	0.9	0.9	1.1	1.1	1.1	0.7	0.3	0.1	0.5
60 Jim Knight	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.4	0.2
61 John Day Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
62 Kasel & Witherspoon	0.9	0.9	0.9	0.6	0.4	0.2	0.2	0.2	0.3	0.4	0.4	0.8	0.9	0.8	0.5
63 Kevin Duncan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
64 Koma Kulshan	4.6	4.6	4.3	6.4	8	6.1	3.9	3.8	4.4	6.9	6.9	9.4	10	8.2	6.4
65 Koyle	1.1	1.1	1.1	1.0	1	0.2	0.1	0.1	0.3	0.8	0.8	1.2	0.8	0.9	0.7
66 L. Fery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Lacombe Irrig.	0	0	0	0	0.2	1.0	0.2	0.9	0.9	1	1	0.9	0.9	0.4	0.5
68 Lake Oswego	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
69 Lateral #10	1.2	1.2	1.3	1.6	1.7	1.2	1.2	1.3	1.4	1.5	1.5	1.4	1.3	1.2	1.4
70 Lee Tavenner	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
71 Lemoyne	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
72 Lilliwaup Falls Generating Co.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73 Little Mac	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
74 Little Wood River Res.	1.9	1.9	0.2	0.2	0.2	0	0	0	1.6	1.7	1.7	1.6	2	1.9	1.0
75 Littlewood/Arkoosh	0.7	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.5	0.5	0.4	0.8	0.7	0.5
76 Low Line Canal Drop	7.8	7.8	7.5	7.3	7.5	0.6	0.6	0.7	5.3	5.5	5.5	5.3	8.1	7.8	5.3
77 Low Line Midway	2	2	0	0	0	0	0	0	0	0	0	0	2	2	0.5
78 Lower Low Line #2	2.7	2.7	2.5	1.8	1.4	0	0	0.7	1.9	2.5	2.5	2.7	2.7	2.7	1.8
79 Lucky Peak	29	27	20	4.5	0	0.7	0	1.5	1.6	11	11	68	75	73	24
80 Magic Reservoir	6.8	6.8	4.4	0.5	0.2	0.1	0.3	0.1	0.9	3.0	3.0	8.3	9.1	9.0	3.6
81 Main Canal Headworks	20	20	12	5.2	0	0	0	0	2.8	14	14	18	21	24	9.8
82 Malad River	0.5	0.5	0.6	0.5	0.5	0.1	0.1	0	0.2	0.4	0.4	0.6	0.4	0.5	0.4
83 Marco Ranches	1.1	1.1	1.2	1.1	1.2	0	0	0	1.1	1.2	1.2	1.1	1.2	1.1	0.9
84 Marsh Valley	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
85 Meyers Falls	1	1	0.9	0.6	0.9	0.9	0.6	0.8	1.1	1.1	1.1	1	1.2	1.1	0.9
86 Middle Fork Irrig.	1.8	1.8	0.8	1.2	1.3	1.7	2.7	3.1	3.1	2.9	2.9	2.8	2.4	2.0	2.2
87 Mile 28	1.3	1.3	1.2	0.7	0.2	0	0	0	0	0.6	0.6	1.2	1.3	1.4	0.7
88 Mill Creek (OR) - City of Cove	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
89 Minikahda	0	0	0	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	0
90 Mink Creek	1.2	1.2	0.8	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.4	1.6	2.7	1.6	0.9
91 Mitchell Butte	1	1	1.1	0.4	0	0	0	0	0.3	0.8	0.8	1.2	1.3	1.1	0.6
92 Mora Canal Drop	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
93 Mountain Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94 Mt. Tabor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
95 Mud Creek/S&S	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4
96 Mud Creek/White	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1
97 Nichols Gap	0	0	0	0	0.4	0.6	0.2	0.5	0.6	0.4	0.4	0	0	0	0.2
98 Nicholson Sunnybar	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
99 North Fork Sprague	0	0	0.1	0	0	0	0.1	0.3	0.2	0.3	0.3	0.9	0.4	0.1	0.2
100 O.J. Power	0	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
101 Odell Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102 Opal Springs	2.6	2.6	3.0	3.6	3.2	2.9	2.9	3.5	2.6	2.7	2.7	4.5	1.6	2.2	2.9
103 Orchard Avenue	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
104 Owyhee Dam	2.8	2.8	2.0	0.6	0	0	0.2	0.6	1.8	3.3	3.3	3.9	3.3	3.2	1.8
105 PEC Headworks	4.5	4.5	3.1	2.2	0	0	0	0	0.4	5.1	5.1	6.5	6.2	5.8	2.8
106 Phillips Ranch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Phillipsburg	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
108 Pickering Micro Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109 Pigeon Cove	2.0	2.0	2.1	1.3	0.8	0.4	0.3	0.4	0.6	0.8	0.8	1.7	1.9	1.7	1.2
110 Pine Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
111 Portland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112 Portland Hydro Project	2.3	2.3	2.9	6.7	16	20	18	17	16	17	17	15	8.4	3.2	12
113 Portneuf River	0.2	0.2	0.1	0	0.1	0.1	0	0	0	0	0	0.2	0.6	0.4	0.2
114 Potholes E Canal 66.0	1.8	1.8	1.8	1.6	0	0	0	0	0.6	1.8	1.8	1.8	1.8	1.8	1.1
115 Preston City	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4
116 Pristine Springs	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
117 Pristine Springs #3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
118 Quincy Chute	7.7	7.7	4	2.3	0	0	0	0	0.8	5.5	5.5	7.1	8.4	8.5	3.7
119 Reynolds Irrigation	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
120 Rim View	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
121 Rock Creek #1	1.1	1.1	1.6	1.7	1.2	1.3	1.1	1.0	1.1	1.4	1.4	1.5	1.3	1.1	1.3
122 Rock Creek #2	1.8	1.8	1.8	1.9	1.9	1.9	0.6	0.4	1.6	1.9	1.9	1.9	1.9	1.6	1.6
123 Rocky Brook	0	0	0	0	0.2	0.6	0.6	0.4	0.5	0.5	0.5	0.2	0.1	0	0.3
124 Russel D. Smith	4	4	2.6	1.4	0	0	0	0	0.2	2.4	2.4	3.8	4.2	3.4	1.8
125 Sagebrush	0.4	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.4	0.4	0.3
126 Sahko	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
127 Salem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128 Schaffner	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.3

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2010 - 2011 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
129 Sheep Creek	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.9	1.6	1.6	0.8	1.5	1.1	0.7
130 Shingle Creek	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
131 Shoshone	0.3	0.3	0.3	0.3	0.3	0	0	0	0.1	0.2	0.2	0.4	0.2	0.3	0.2
132 Shoshone II	0.6	0.6	0.6	0	0	0	0	0	0	0.3	0.3	0.5	0.6	0.6	0.3
133 Snake River Pottery	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
134 Snedigar Ranch	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2
135 Solar Research	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0
136 South Dry Creek	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0.5	0.5	0.6	0.5	0.5	0.3
137 Spokane Upriver	3.4	3.4	3.4	4.7	6.7	13	14	13	14	13	13	11	12	8.4	9.7
138 Stauffer Dry Creek	0.9	0.9	1	0.8	0.4	0	0.3	0.3	0.4	0.4	0.4	0.9	2.7	2.1	0.9
139 Strawberry Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
140 Summer Falls	79	79	48	22	0	0	0	0	4.8	50	50	71	81	87	37
141 Sunshine Power #2	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
142 Sygitowicz Creek Small Hydro	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
143 Thomas Burnside	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144 Tiber Dam Liberty Montana	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
145 Tieton (Yakima)	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
146 Trout Co.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
147 Tunnel #1	4.3	4.3	2.6	0.5	0	0	0	0	2.4	5.1	5.1	5.8	5.8	5.9	2.7
148 Twin Falls	5	5	0	1.2	9.6	7.9	7.4	4.8	7.8	15	15	13	24	19	9.6
149 Walla Walla	1.5	1.5	1.4	1.3	1.2	1.3	1.2	1.5	1.8	1.8	1.8	1.5	1.5	1.8	1.5
150 Water Street / Santiam	0	0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
151 Weeks Falls	0.8	0.8	0	0.2	1.7	1.8	1.2	0.6	1.2	2.6	2.6	2.4	4.4	3.5	1.7
152 White Water Ranch	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
153 Wilson Lake Hydro	7.1	7.1	5.3	2.0	0.2	0	0	0	0	2.3	2.3	6.1	6.8	7.6	3.1
154 Wisconsin Creek	0	0	0	0.1	0	0.1	0.1	0.1	0	0.1	0.1	0	0	0	0.1
155 Woods Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
156 Total NUG: Hydro	342	338	242	170	142	136	126	129	161	308	317	439	458	430	258
-NUG: Small Thermal & Misc.-															
157 Covanta Marion Solid Waste	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
158 Methane Energy Agricultural D.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
159 Montana One	9.4	9.6	8.9	9.0	9.2	10.0	10	10.0	8.9	8.9	8.7	10	8.7	8.5	9.3
160 Pocatello Waste	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
161 Spokane MSW	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
162 Treasure Valley	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
163 West Boise Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164 Total NUG: Small Thermal & Misc.	39	39	38	38	38	39	39	39	38	38	38	39	38	38	39
-NUG: Co-Generation-															
165 Billings Generation	17	18	16	11	17	18	19	18	16	10	10	19	16	16	16
166 Biomass One	15	15	14	15	14	15	15	13	15	14	14	15	14	15	15
167 Boise Cascade Medford	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168 Champion	3.3	3.3	3.3	3.3	3.3	3.3	1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1
169 Cogen Co	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
170 DR Johnson - Co-Gen II	6.0	6.0	5.8	6.0	5.8	6.0	6.0	5.4	6.0	7.2	0	6.0	5.8	6.0	5.7
171 Everett Cogen Project (Kimberly Clark)	38	38	38	36	36	34	31	34	19	36	36	38	33	38	34
172 Evergreen Biopower Cogen (Freres)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
173 Glenns Ferry Cogen Facility (Magic West)	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
174 March Point #1	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
175 March Point #2	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
176 Metro Westpoint	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
177 Pottlatch Contract Renewal	50	50	37	42	53	51	53	51	50	44	44	46	46	47	48
178 Rough & Ready Lumber	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
179 Rupert Cogen Facility (Magic Valley)	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
180 Simplot Pocatello	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
181 Stimson Lumber (formerly Haley West)	4.4	4.4	4.3	4.0	4.5	4.1	4.2	4.4	4.5	4.3	4.3	4.1	4	4	4.2
182 Sumas Compression Station	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
183 Tamarack	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
184 TASCO Nampa ID	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
185 TASCO Twin Falls ID	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
186 Vaagen Bros.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
187 Warm Springs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Table A-24: Regional NUG Resources By Project And Project Type
 PNW Loads and Resource Study
 2010 - 2011 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
188 Total NUG: Co-Generation	312	312	297	295	311	309	307	307	292	297	290	309	300	306	303
<i>-NUG: Renewables-</i>															
189 Ashland Solar Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190 Bettencourt Dairy (Cargill)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
191 Big Sky Dairy	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
192 Chinook Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
193 DeRuyter & Son's Dairy	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
194 Dry Creek Landfill (NUG Renewable)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
195 Emmett Biomass Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
196 Finley Buttes BioEnergy	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
197 Healow #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
198 Hidden Hollow Landfill	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
199 Josef Staufer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200 Lewandowski Farms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201 Livingston	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
202 Pine Products Corp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
203 Portland Waste Water	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
204 Puyallup Energy Recovery (PERC)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
205 Qualco Dairy Digester	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
206 Raft River Geothermal Phase 1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
207 VanderHaak Dairy	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
208 White Bluffs Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209 Wild Horse Solar	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
210 Windmill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
211 Total NUG: Renewables	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
<i>-Total Non-Utility Generating Resources-</i>															
212 Federal Entities	27	26	9.2	13	27	30	30	26	25	45	45	41	27	19	26
213 Public Entities	188	186	134	78	39	38	34	38	33	130	130	219	235	246	118
214 Investor-Owned Entities	493	493	450	428	450	441	432	435	457	492	486	542	549	525	475
215 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.5
216 Total Non-Utility Generation	717	714	602	528	517	509	497	500	516	668	670	812	820	799	624

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2011 - 2012 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-NUG: Hydro-</i>															
1 Albany	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2 Barber Dam	2.4	2.4	1.9	0.8	0.3	1.0	2.2	2.6	3.3	3.2	3.2	3.1	3.2	3.3	2.3
3 Barney Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Beaverton	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0
5 Bell Mountain	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
6 Big Sheep Creek	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
7 Bingham Engineering	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8 Birch Creek (Clark County)	0	0	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0
9 Birch Creek (Gooding County)	1.3	1.3	1.1	1.0	1.1	1.1	0.3	1.2	1.7	1.6	1.6	1.6	1.3	1.2	1.2
10 Black Canyon #3	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11 Black Creek	3.1	2.8	3.1	3.1	2.8	1.9	2.8	2.8	1.9	2.5	3.4	3.4	3.4	3.1	2.8
12 Blind Canyon Hydro	0.7	0.7	1.1	0.9	0.2	0	0	0	0	0.6	0.6	1.6	1.0	0.7	0.6
13 Boulder Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 Box Canyon	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
15 Briggs Creek	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16 Broadwater Dam	1.1	1.1	1.5	1.9	2	1.6	1.5	1.7	1.7	2.7	2.6	3.1	2.7	2.0	2.0
17 Buffalo Hydro	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18 Burr & Bouchard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Bypass	8.3	8.3	6.5	2.8	1.0	0	0	0	0.1	2.9	2.9	7	8.2	8.7	3.8
20 Canyon Springs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 Carlton	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0	0	0	0
22 Cascade Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Cedar Draw	0.3	0.3	0.9	0.9	0.9	1.2	1.2	1.3	0.4	0.4	0.4	0.4	0.3	0.3	0.7
24 Central OR Irrigation District	3.1	3.1	3.7	3.5	0	0.7	0	0.4	0.9	0.8	0.8	4.5	3.8	4.1	2.1
25 Clear Springs Trout	0.4	0.4	0.4	0.5	0.6	0.6	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4
26 Cornelius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Cowiche	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
28 Crystal Springs	1.3	1.3	1.6	1.5	1.6	0.5	0.5	0.6	0.8	0.9	0.9	0.8	1.4	1.3	1.1
29 Curry Cattle Co.	0.2	0.2	0.2	0.1	0.1	0	0	0	0.1	0.1	0.1	0.2	0.2	0.2	0.1
30 Curtiss Livestock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Dairy Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Deep Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Derr Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1
34 Dietrich Drop	4.7	4.7	3.6	3.1	1.4	0	0	0	0	3.1	3.1	4.7	4.7	4.5	2.5
35 Don Steffen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Donald Jenni	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
37 Dworshak/Clearwater Small Hydropower	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
38 Eagle Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Elk Creek	1.2	1.2	0	0	0	0.1	0.1	0.1	1	1	1	1	1.2	1.2	0.6
40 Eltopia Br Canal 4.6	1.8	1.8	1.2	0.6	0	0	0	0	0	1.4	1.4	2	2	2.2	0.9
41 Elwha Hydro	8.2	7.7	2.3	3.6	9.5	11	0.8	0	0	0	0	0	0	0	3.0
42 Estacada	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
43 Fall Creek (OR)	0	0	0	0	1.9	3.1	0.9	2.7	2.7	4.4	4.4	4.1	3.8	0	2.0
44 Falls Creek (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 Falls River	6.5	6.5	6.3	5.7	5.6	5.0	4.2	3.8	3.8	6.2	6.2	7.9	8.5	7.1	5.9
46 Farmers Irrig.	0.6	0.6	0.7	1.2	3.2	3.2	2.1	4.6	3.3	3.5	3.5	4.7	0.8	0.7	2.4
47 Faulkner Ranch	0.8	0.8	0.7	0.7	0.7	0.3	0.3	0.3	0.5	0.6	0.6	0.5	0.8	0.8	0.6
48 Fisheries Development Co	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3
49 Galesville Dam	0.6	0.6	0.4	0.2	0.2	0.3	0	0.2	0.3	0.4	0.4	0.3	0.4	0.5	0.3
50 Geobon 2	1.0	1.0	0.3	0.3	0.3	0.2	0.2	0.3	0.6	0.6	0.6	0.6	1.0	1.0	0.5
51 Georgetown Power	0	0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0	0.2
52 Glines Canyon Hydro	16	15	4.1	6.7	14	16	15	6	0	0	0	0	0	0	6.5
53 Hailey Csp	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
54 Hazelton A	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
55 Hazelton B	6.6	6.6	5.2	2.4	0.7	0	0	0	0.1	2.2	2.2	5.6	6.4	7.0	3
56 Horseshoe Bend Hydro	8.8	8.8	7.5	3.9	2.8	3.5	3.9	4.6	5.9	8.8	8.8	9.9	9.8	9.2	6.6
57 Hutchinson Creek	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
58 Ingram Warm Springs	0.2	0.2	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4
59 Jim Ford Creek	0	0	0	0	0.3	0.5	0.9	0.9	1.1	1.1	1.1	0.7	0.3	0.1	0.5
60 Jim Knight	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.4	0.2
61 John Day Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
62 Kasel & Witherspoon	0.9	0.9	0.9	0.6	0.4	0.2	0.2	0.2	0.3	0.4	0.4	0.8	0.9	0.8	0.5
63 Kevin Duncan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2011 - 2012 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
64 Koma Kulshan	4.6	4.6	4.3	6.4	8	6.1	3.9	3.8	4.4	6.9	6.9	9.4	10	8.2	6.4
65 Koyle	1.1	1.1	1.1	1.0	1	0.2	0.1	0.1	0.3	0.8	0.8	1.2	0.8	0.9	0.7
66 L. Fery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Lacombe Irrig.	0	0	0	0	0.2	1.0	0.2	0.9	0.9	1	1	0.9	0.9	0.4	0.5
68 Lake Oswego	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
69 Lateral #10	1.2	1.2	1.3	1.6	1.7	1.2	1.2	1.3	1.4	1.5	1.5	1.4	1.3	1.2	1.4
70 Lee Tavenner	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
71 Lemoyne	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
72 Lilliwaup Falls Generating Co.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73 Little Mac	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
74 Little Wood River Res.	1.9	1.9	0.2	0.2	0.2	0	0	0	1.6	1.7	1.7	1.6	2	1.9	1.0
75 Littlewood/Arkoosh	0.7	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.5	0.5	0.4	0.8	0.7	0.5
76 Low Line Canal Drop	7.8	7.8	7.5	7.3	7.5	0.6	0.6	0.7	5.3	5.5	5.5	5.3	8.1	7.8	5.3
77 Low Line Midway	2	2	0	0	0	0	0	0	0	0	0	0	2	2	0.5
78 Lower Low Line #2	2.7	2.7	2.5	1.8	1.4	0	0	0.7	1.9	2.5	2.5	2.7	2.7	2.7	1.8
79 Lucky Peak	29	27	20	4.5	0	0.7	0	1.5	1.6	11	11	68	75	73	24
80 Magic Reservoir	6.8	6.8	4.4	0.5	0.2	0.1	0.3	0.1	0.9	3.0	3.0	8.3	9.1	9.0	3.6
81 Main Canal Headworks	20	20	12	5.2	0	0	0	0	2.8	14	14	18	21	24	9.8
82 Malad River	0.5	0.5	0.6	0.5	0.5	0.1	0.1	0	0.2	0.4	0.4	0.6	0.4	0.5	0.4
83 Marco Ranches	1.1	1.1	1.2	1.1	1.2	0	0	0	1.1	1.2	1.2	1.1	1.2	1.1	0.9
84 Marsh Valley	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
85 Meyers Falls	1	1	0.9	0.6	0.9	0.9	0.6	0.8	1.1	1.1	1.1	1	1.2	1.1	0.9
86 Middle Fork Irrig.	1.8	1.8	0.8	1.2	1.3	1.7	2.7	3.1	3.1	2.9	2.9	2.8	2.4	2.0	2.2
87 Mile 28	1.3	1.3	1.2	0.7	0.2	0	0	0	0	0.6	0.6	1.2	1.3	1.4	0.7
88 Mill Creek (OR) - City of Cove	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
89 Minikahda	0	0	0	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	0
90 Mink Creek	1.2	1.2	0.8	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.4	1.6	2.7	1.6	0.9
91 Mitchell Butte	1	1	1.1	0.4	0	0	0	0	0.3	0.8	0.8	1.2	1.3	1.1	0.6
92 Mora Canal Drop	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
93 Mountain Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94 Mt. Tabor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
95 Mud Creek/S&S	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4
96 Mud Creek/White	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1
97 Nichols Gap	0	0	0	0	0.4	0.6	0.2	0.5	0.6	0.4	0.4	0	0	0	0.2
98 Nicholson Sunnybar	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
99 North Fork Sprague	0	0	0.1	0	0	0	0.1	0.3	0.2	0.3	0.3	0.9	0.4	0.1	0.2
100 O.J. Power	0	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
101 Odell Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102 Opal Springs	2.6	2.6	3.0	3.6	3.2	2.9	2.9	3.5	2.6	2.7	2.7	4.5	1.6	2.2	2.9
103 Orchard Avenue	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
104 Owyhee Dam	2.8	2.8	2.0	0.6	0	0	0.2	0.6	1.8	3.3	3.3	3.9	3.3	3.2	1.8
105 PEC Headworks	4.5	4.5	3.1	2.2	0	0	0	0	0.4	5.1	5.1	6.5	6.2	5.8	2.8
106 Phillips Ranch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Phillipsburg	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
108 Pickering Micro Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109 Pigeon Cove	2.0	2.0	2.1	1.3	0.8	0.4	0.3	0.4	0.6	0.8	0.8	1.7	1.9	1.7	1.2
110 Pine Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
111 Portland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112 Portland Hydro Project	2.3	2.3	2.9	6.7	16	20	18	17	16	17	17	15	8.4	3.2	12
113 Portneuf River	0.2	0.2	0.1	0	0.1	0.1	0	0	0	0	0	0.2	0.6	0.4	0.1
114 Potholes E Canal 66.0	1.8	1.8	1.8	1.6	0	0	0	0	0.6	1.8	1.8	1.8	1.8	1.8	1.1
115 Preston City	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4
116 Pristine Springs	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
117 Pristine Springs #3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
118 Quincy Chute	7.7	7.7	4	2.3	0	0	0	0	0.8	5.5	5.5	7.1	8.4	8.5	3.7
119 Reynolds Irrigation	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
120 Rim View	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
121 Rock Creek #1	1.1	1.1	1.6	1.7	1.2	1.3	1.1	1.0	1.1	1.4	1.4	1.5	1.3	1.1	1.3
122 Rock Creek #2	1.8	1.8	1.8	1.9	1.9	1.9	0.6	0.4	1.6	1.9	1.9	1.9	1.9	1.6	1.6
123 Rocky Brook	0	0	0	0	0.2	0.6	0.6	0.4	0.5	0.5	0.5	0.2	0.1	0	0.3
124 Russel D. Smith	4	4	2.6	1.4	0	0	0	0	0.2	2.4	2.4	3.8	4.2	3.4	1.8
125 Sagebrush	0.4	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.4	0.4	0.3
126 Sahko	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
127 Salem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128 Schaffner	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.3

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2011 - 2012 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
129 Sheep Creek	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.9	1.6	1.6	0.8	1.5	1.1	0.7
130 Shingle Creek	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
131 Shoshone	0.3	0.3	0.3	0.3	0.3	0	0	0	0.1	0.2	0.2	0.4	0.2	0.3	0.2
132 Shoshone II	0.6	0.6	0.6	0	0	0	0	0	0	0.3	0.3	0.5	0.6	0.6	0.3
133 Snake River Pottery	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
134 Snedigar Ranch	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2
135 Solar Research	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0
136 South Dry Creek	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0.5	0.5	0.6	0.5	0.5	0.3
137 Spokane Upriver	3.4	3.4	3.4	4.7	6.7	13	14	13	14	13	13	11	12	8.4	9.7
138 Stauffer Dry Creek	0.9	0.9	1	0.8	0.4	0	0.3	0.3	0.4	0.4	0.4	0.9	2.7	2.1	0.8
139 Strawberry Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
140 Summer Falls	79	79	48	22	0	0	0	0	4.8	50	50	71	81	87	37
141 Sunshine Power #2	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
142 Sygitowicz Creek Small Hydro	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
143 Thomas Burnside	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144 Tiber Dam Liberty Montana	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
145 Tieton (Yakima)	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.2
146 Trout Co.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
147 Tunnel #1	4.3	4.3	2.6	0.5	0	0	0	0	2.4	5.1	5.1	5.8	5.8	5.9	2.7
148 Twin Falls	5	5	0	1.2	9.6	7.9	7.4	4.8	7.8	15	15	13	24	19	9.6
149 Walla Walla	1.5	1.5	1.4	1.3	1.2	1.3	1.2	1.5	1.8	1.8	1.8	1.5	1.5	1.8	1.5
150 Water Street / Santiam	0	0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
151 Weeks Falls	0.8	0.8	0	0.2	1.7	1.8	1.2	0.6	1.2	2.6	2.6	2.4	4.4	3.5	1.7
152 White Water Ranch	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
153 Wilson Lake Hydro	7.1	7.1	5.3	2.0	0.2	0	0	0	0	2.3	2.3	6.1	6.8	7.6	3.1
154 Wisconsin Creek	0	0	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1
155 Woods Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
156 Total NUG: Hydro	342	338	243	170	142	136	115	112	138	265	276	400	434	414	243
-NUG: Small Thermal & Misc.-															
157 Covanta Marion Solid Waste	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
158 Methane Energy Agricultural D.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
159 Montana One	9.4	9.6	8.9	9.0	9.2	10.0	10	10	9.0	9.0	8.8	10	8.8	8.6	9.4
160 Pocatello Waste	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
161 Spokane MSW	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
162 Treasure Valley	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
163 West Boise Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164 Total NUG: Small Thermal & Misc.	39	39	38	38	38	39	39	39	38	38	38	40	38	38	39
-NUG: Co-Generation-															
165 Billings Generation	17	18	16	11	17	18	19	18	16	10	10	19	16	16	16
166 Biomass One	15	15	14	15	14	15	15	14	15	14	14	15	14	15	15
167 Boise Cascade Medford	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168 Champion	3.3	3.3	3.3	3.3	3.3	3.3	1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1
169 Cogen Co	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
170 DR Johnson - Co-Gen II	6.0	6.0	5.8	6.0	5.8	6.0	6.0	5.6	6.0	7.2	0	6.0	5.8	6.0	5.7
171 Everett Cogen Project (Kimberly Clark)	38	38	38	36	36	34	31	34	19	36	36	38	33	38	34
172 Evergreen Biopower Cogen (Freres)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
173 Glenns Ferry Cogen Facility (Magic West)	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
174 March Point #1	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
175 March Point #2	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
176 Metro Westpoint	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
177 Pottlatch Contract Renewal	50	50	37	42	53	51	53	51	50	44	44	46	46	47	48
178 Rough & Ready Lumber	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
179 Rupert Cogen Facility (Magic Valley)	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
180 Simplot Pocatello	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
181 Stimson Lumber (formerly Haley West)	4.4	4.4	4.3	4.0	4.5	4.1	4.2	4.4	4.5	4.3	4.3	4.1	4	4	4.2
182 Sumas Compression Station	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
183 Tamarack	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
184 TASCO Nampa ID	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
185 TASCO Twin Falls ID	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
186 Vaagen Bros.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
187 Warm Springs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Table A-24: Regional NUG Resources By Project And Project Type
 PNW Loads and Resource Study
 2011 - 2012 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
188 Total NUG: Co-Generation	312	312	297	295	311	309	307	308	292	297	290	309	300	306	303
<i>-NUG: Renewables-</i>															
189 Ashland Solar Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190 Bettencourt Dairy (Cargill)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
191 Big Sky Dairy	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
192 Chinook Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
193 DeRuyter & Son's Dairy	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
194 Dry Creek Landfill (NUG Renewable)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
195 Emmett Biomass Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
196 Finley Buttes BioEnergy	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
197 Fourmile Hill Geothermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
198 Healow #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199 Hidden Hollow Landfill	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
200 Josef Staufer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201 Lewandowski Farms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
202 Livingston	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
203 Pine Products Corp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
204 Portland Waste Water	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
205 Puyallup Energy Recovery (PERC)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
206 Qualco Dairy Digester	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
207 Raft River Geothermal Phase 1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
208 VanderHaak Dairy	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
209 White Bluffs Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210 Wild Horse Solar	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
211 Windmill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
212 Total NUG: Renewables	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
<i>-Total Non-Utility Generating Resources-</i>															
213 Federal Entities	27	26	9.2	13	27	30	18	8.9	2.8	2.8	2.8	2.8	2.8	2.8	12
214 Public Entities	188	186	134	78	39	38	50	54	49	146	146	235	251	262	127
215 Investor-Owned Entities	493	493	452	428	450	441	417	419	440	476	470	526	533	509	465
216 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.4
217 Total Non-Utility Generation	717	714	603	528	517	509	487	484	493	626	628	773	797	783	610

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-NUG: Hydro-</i>															
1 Albany	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2 Barber Dam	2.4	2.4	1.9	0.8	0.3	1.0	2.2	2.6	3.3	3.2	3.2	3.1	3.2	3.3	2.3
3 Barney Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Beaverton	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0
5 Bell Mountain	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
6 Big Sheep Creek	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
7 Bingham Engineering	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8 Birch Creek (Clark County)	0	0	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0
9 Birch Creek (Gooding County)	1.3	1.3	1.1	1.0	1.1	1.1	0.3	1.2	1.7	1.6	1.6	1.6	1.3	1.2	1.2
10 Black Canyon #3	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11 Black Creek	3.7	3.4	3.1	3.1	2.8	3.1	3.1	2.8	1.9	2.8	2.8	1.9	2.5	3.4	2.8
12 Blind Canyon Hydro	0.7	0.7	1.1	0.9	0.2	0	0	0	0	0.6	0.6	1.6	1.0	0.7	0.6
13 Boulder Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 Box Canyon	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
15 Briggs Creek	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16 Broadwater Dam	1.1	1.1	1.5	1.9	2	1.6	1.6	1.7	1.8	2.7	2.6	3.2	3.4	2.0	2
17 Buffalo Hydro	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18 Burr & Bouchard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Bypass	8.3	8.3	6.5	2.8	1.0	0	0	0	0.1	2.9	2.9	7	8.2	8.7	3.8
20 Canyon Springs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 Carlton	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0	0	0	0
22 Cascade Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Cedar Draw	0.3	0.3	0.9	0.9	0.9	1.2	1.2	1.3	0.4	0.4	0.4	0.4	0.3	0.3	0.7
24 Central OR Irrigation District	3.1	3.1	3.7	3.5	0	0.7	0	0.4	0.9	0.8	0.8	4.5	3.8	4.1	2.1
25 Clear Springs Trout	0.4	0.4	0.4	0.5	0.6	0.6	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4
26 Cornelius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Cowiche	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
28 Crystal Springs	1.3	1.3	1.6	1.5	1.6	0.5	0.5	0.6	0.8	0.9	0.9	0.8	1.4	1.3	1.1
29 Curry Cattle Co.	0.2	0.2	0.2	0.1	0.1	0	0	0	0.1	0.1	0.1	0.2	0.2	0.2	0.1
30 Curtiss Livestock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Dairy Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Deep Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Derr Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1
34 Dietrich Drop	4.7	4.7	3.6	3.1	1.4	0	0	0	0	3.1	3.1	4.7	4.7	4.5	2.5
35 Don Steffen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Donald Jenni	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
37 Dworshak/Clearwater Small Hydropower	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
38 Eagle Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Elk Creek	1.2	1.2	0	0	0	0.1	0.1	0.1	1	1	1	1	1.2	1.2	0.6
40 Eltopia Br Canal 4.6	1.8	1.8	1.2	0.6	0	0	0	0	0	1.4	1.4	2	2	2.2	0.9
41 Estacada	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
42 Fall Creek (OR)	0	0	0	0	1.9	3.1	0.9	2.7	2.7	4.4	4.4	4.1	3.8	0	1.9
43 Falls Creek (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Falls River	6.5	6.5	6.3	5.7	5.6	5.0	4.2	3.8	3.8	6.2	6.2	7.9	8.5	7.1	5.9
45 Farmers Irrig.	0.6	0.6	0.7	1.2	3.2	3.2	2.1	4.6	3.3	3.5	3.5	4.7	0.8	0.7	2.4
46 Faulkner Ranch	0.8	0.8	0.7	0.7	0.7	0.3	0.3	0.3	0.5	0.6	0.6	0.5	0.8	0.8	0.6
47 Fisheries Development Co	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3
48 Galesville Dam	0.6	0.6	0.4	0.2	0.2	0.3	0	0.2	0.3	0.4	0.4	0.3	0.4	0.5	0.3
49 Geobon 2	1.0	1.0	0.3	0.3	0.3	0.2	0.2	0.3	0.6	0.6	0.6	0.6	1.0	1.0	0.5
50 Georgetown Power	0	0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0	0.2
51 Hailey Cspp	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
52 Hazelton A	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
53 Hazelton B	6.6	6.6	5.2	2.4	0.7	0	0	0	0.1	2.2	2.2	5.6	6.4	7.0	3
54 Horseshoe Bend Hydro	8.8	8.8	7.5	3.9	2.8	3.5	3.9	4.6	5.9	8.8	8.8	9.9	9.8	9.2	6.6
55 Hutchinson Creek	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
56 Ingram Warm Springs	0.2	0.2	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4
57 Jim Ford Creek	0	0	0	0	0.3	0.5	0.9	0.9	1.1	1.1	1.1	0.7	0.3	0.1	0.5
58 Jim Knight	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.4	0.2
59 John Day Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
60 Kasel & Witherspoon	0.9	0.9	0.9	0.6	0.4	0.2	0.2	0.2	0.3	0.4	0.4	0.8	0.9	0.8	0.5
61 Kevin Duncan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Koma Kulshan	4.6	4.6	4.3	6.4	8	6.1	3.9	3.8	4.4	6.9	6.9	9.4	10	8.2	6.4
63 Koyle	1.1	1.1	1.1	1.0	1	0.2	0.1	0.1	0.3	0.8	0.8	1.2	0.8	0.9	0.7

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
64 L. Fery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Lacombe Irrig.	0	0	0	0	0.2	1.0	0.2	0.9	0.9	1	1	0.9	0.9	0.4	0.5
66 Lake Oswego	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
67 Lateral #10	1.2	1.2	1.3	1.6	1.7	1.2	1.2	1.3	1.4	1.5	1.5	1.4	1.3	1.2	1.4
68 Lee Tavenner	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
69 Lemoyne	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70 Lilliwaup Falls Generating Co.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Little Mac	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
72 Little Wood River Res.	1.9	1.9	0.2	0.2	0.2	0	0	0	1.6	1.7	1.7	1.6	2	1.9	1.0
73 Littlewood/Arkoosh	0.7	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.5	0.5	0.4	0.8	0.7	0.5
74 Low Line Canal Drop	7.8	7.8	7.5	7.3	7.5	0.6	0.6	0.7	5.3	5.5	5.5	5.3	8.1	7.8	5.3
75 Low Line Midway	2	2	0	0	0	0	0	0	0	0	0	0	2	2	0.5
76 Lower Low Line #2	2.7	2.7	2.5	1.8	1.4	0	0	0.7	1.9	2.5	2.5	2.7	2.7	2.7	1.8
77 Lucky Peak	29	27	20	4.5	0	0.7	0	1.5	1.6	11	11	68	75	73	24
78 Magic Reservoir	6.8	6.8	4.4	0.5	0.2	0.1	0.3	0.1	0.9	3.0	3.0	8.3	9.1	9.0	3.6
79 Main Canal Headworks	20	20	12	5.2	0	0	0	0	2.8	14	14	18	21	24	9.8
80 Malad River	0.5	0.5	0.6	0.5	0.5	0.1	0.1	0	0.2	0.4	0.4	0.6	0.4	0.5	0.4
81 Marco Ranches	1.1	1.1	1.2	1.1	1.2	0	0	0	1.1	1.2	1.2	1.1	1.2	1.1	0.9
82 Marsh Valley	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83 Meyers Falls	1	1	0.9	0.6	0.9	0.9	0.6	0.8	1.1	1.1	1.1	1	1.2	1.1	0.9
84 Middle Fork Irrig.	1.8	1.8	0.8	1.2	1.3	1.7	2.7	3.1	3.1	2.9	2.9	2.8	2.4	2.0	2.2
85 Mile 28	1.3	1.3	1.2	0.7	0.2	0	0	0	0	0.6	0.6	1.2	1.3	1.4	0.7
86 Mill Creek (OR) - City of Cove	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
87 Minikahda	0	0	0	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	0
88 Mink Creek	1.2	1.2	0.8	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.4	1.6	2.7	1.6	0.9
89 Mitchell Butte	1	1	1.1	0.4	0	0	0	0	0.3	0.8	0.8	1.2	1.3	1.1	0.6
90 Mora Canal Drop	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
91 Mountain Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Mt. Tabor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
93 Mud Creek/S&S	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4
94 Mud Creek/White	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1
95 Nichols Gap	0	0	0	0	0.4	0.6	0.2	0.5	0.6	0.4	0.4	0	0	0	0.2
96 Nicholson Sunnybar	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
97 North Fork Sprague	0	0	0.1	0	0	0	0.1	0.3	0.2	0.3	0.3	0.9	0.4	0.1	0.2
98 O.J. Power	0	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
99 Odell Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Opal Springs	2.6	2.6	3.0	3.6	3.2	2.9	2.9	3.5	2.6	2.7	2.7	4.5	1.6	2.2	2.9
101 Orchard Avenue	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
102 Owyhee Dam	2.8	2.8	2.0	0.6	0	0	0.2	0.6	1.8	3.3	3.3	3.9	3.3	3.2	1.8
103 PEC Headworks	4.5	4.5	3.1	2.2	0	0	0	0	0.4	5.1	5.1	6.5	6.2	5.8	2.8
104 Phillips Ranch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105 Phillipsburg	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
106 Pickering Micro Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pigeon Cove	2.0	2.0	2.1	1.3	0.8	0.4	0.3	0.4	0.6	0.8	0.8	1.7	1.9	1.7	1.2
108 Pine Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
109 Portland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Portland Hydro Project	2.3	2.3	2.9	6.7	16	20	18	17	16	17	17	15	8.4	3.2	12
111 Portneuf River	0.2	0.2	0.1	0	0.1	0.1	0	0	0	0	0	0.2	0.6	0.4	0.2
112 Potholes E Canal 66.0	1.8	1.8	1.8	1.6	0	0	0	0	0.6	1.8	1.8	1.8	1.8	1.8	1.1
113 Preston City	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4
114 Pristine Springs	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
115 Pristine Springs #3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
116 Quincy Chute	7.7	7.7	4	2.3	0	0	0	0	0.8	5.5	5.5	7.1	8.4	8.5	3.7
117 Reynolds Irrigation	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
118 Rim View	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
119 Rock Creek #1	1.1	1.1	1.6	1.7	1.2	1.3	1.1	1.0	1.1	1.4	1.4	1.5	1.3	1.1	1.3
120 Rock Creek #2	1.8	1.8	1.8	1.9	1.9	1.9	0.6	0.4	1.6	1.9	1.9	1.9	1.9	1.6	1.6
121 Rocky Brook	0	0	0	0	0.2	0.6	0.6	0.4	0.5	0.5	0.5	0.2	0.1	0	0.3
122 Russel D. Smith	4	4	2.6	1.4	0	0	0	0	0.2	2.4	2.4	3.8	4.2	3.4	1.8
123 Sagebrush	0.4	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.4	0.4	0.3
124 Sahko	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
125 Salem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Schaffner	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.3
127 Sheep Creek	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.9	1.6	1.6	0.8	1.5	1.1	0.7
128 Shingle Creek	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
129 Shoshone	0.3	0.3	0.3	0.3	0.3	0	0	0	0.1	0.2	0.2	0.4	0.2	0.3	0.2
130 Shoshone II	0.6	0.6	0.6	0	0	0	0	0	0	0.3	0.3	0.5	0.6	0.6	0.3
131 Snake River Pottery	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
132 Snedigar Ranch	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2
133 Solar Research	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0
134 South Dry Creek	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0.5	0.5	0.6	0.6	0.5	0.3
135 Spokane Upriver	3.4	3.4	3.4	4.7	6.7	13	14	13	14	13	13	11	12	8.4	9.7
136 Stauffer Dry Creek	0.9	0.9	1	0.8	0.4	0	0.3	0.3	0.4	0.4	0.4	0.9	2.7	2.1	0.9
137 Strawberry Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
138 Summer Falls	79	79	48	22	0	0	0	0	4.8	50	50	71	81	87	37
139 Sunshine Power #2	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
140 Sygitowicz Creek Small Hydro	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
141 Thomas Burnside	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142 Tiber Dam Liberty Montana	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
143 Tieton (Yakima)	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
144 Trout Co.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
145 Tunnel #1	4.3	4.3	2.6	0.5	0	0	0	0	2.4	5.1	5.1	5.8	5.8	5.9	2.7
146 Twin Falls	5	5	0	1.2	9.6	7.9	7.4	4.8	7.8	15	15	13	24	19	9.6
147 Walla Walla	1.5	1.5	1.4	1.3	1.2	1.3	1.2	1.5	1.8	1.8	1.8	1.5	1.5	1.8	1.5
148 Water Street / Santiam	0	0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
149 Weeks Falls	0.8	0.8	0	0.2	1.7	1.8	1.2	0.6	1.2	2.6	2.6	2.4	4.4	3.5	1.7
150 White Water Ranch	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
151 Wilson Lake Hydro	7.1	7.1	5.3	2.0	0.2	0	0	0	0	2.3	2.3	6.1	6.8	7.6	3.1
152 Wisconsin Creek	0	0	0	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0	0.1
153 Woods Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
154 Total NUG: Hydro	318	316	237	160	119	110	100	106	138	266	275	398	434	414	234
-NUG: Small Thermal & Misc.-															
155 Covanta Marion Solid Waste	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
156 Methane Energy Agricultural D.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
157 Montana One	9.5	9.7	8.9	9.1	9.2	10	10	10	9.1	9.1	8.9	10	11	8.6	9.7
158 Pocatello Waste	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
159 Spokane MSW	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
160 Treasure Valley	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
161 West Boise Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162 Total NUG: Small Thermal & Misc.	39	39	38	38	38	39	40	39	38	38	38	40	41	38	39
-NUG: Co-Generation-															
163 Billings Generation	17	18	16	11	17	18	19	19	17	11	10	19	21	16	17
164 Biomass One	15	15	14	15	14	15	15	13	15	14	14	15	14	15	15
165 Boise Cascade Medford	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 Champion	3.3	3.3	3.3	3.3	3.3	3.3	1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1
167 Cogen Co	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
168 DR Johnson - Co-Gen II	6.0	6.0	5.8	6.0	5.8	6.0	6.0	5.4	6.0	7.2	0	6.0	5.8	6.0	5.7
169 Everett Cogen Project (Kimberly Clark)	38	38	38	36	36	34	31	34	19	36	36	38	33	38	34
170 Evergreen Biopower Cogen (Freres)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
171 Glens Ferry Cogen Facility (Magic West)	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
172 March Point #1	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
173 March Point #2	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
174 Metro Westpoint	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
175 Potlatch Contract Renewal	50	50	37	42	53	51	53	51	50	44	44	46	46	47	48
176 Rough & Ready Lumber	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
177 Rupert Cogen Facility (Magic Valley)	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
178 Simplot Pocatello	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
179 Stimson Lumber (formerly Haley West)	4.4	4.4	4.3	4.0	4.5	4.1	4.2	4.4	4.5	4.3	4.3	4.1	4	4	4.2
180 Sumas Compression Station	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
181 Tamarack	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
182 TASCO Nampa ID	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
183 TASCO Twin Falls ID	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
184 Vaagen Bros.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
185 Warm Springs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
186 Total NUG: Co-Generation	312	313	297	295	311	309	307	308	292	297	290	309	304	307	304

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2012 - 2013 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-NUG: Renewables-</i>															
187 Ashland Solar Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
188 Bettencourt Dairy (Cargill)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
189 Big Sky Dairy	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
190 Chinook Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
191 DeRuyter & Son's Dairy	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
192 Dry Creek Landfill (NUG Renewable)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
193 Emmett Biomass Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
194 Finley Buttes BioEnergy	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
195 Fourmile Hill Geothermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
196 Healow #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
197 Hidden Hollow Landfill	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
198 Josef Staufer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199 Lewandowski Farms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200 Livingston	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201 Pine Products Corp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
202 Portland Waste Water	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
203 Puyallup Energy Recovery (PERC)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
204 Qualco Dairy Digester	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
205 Raft River Geothermal Phase 1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
206 VanderHaak Dairy	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
207 White Bluffs Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
208 Wild Horse Solar	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
209 Windmill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210 Total NUG: Renewables	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
<i>-Total Non-Utility Generating Resources-</i>															
211 Federal Entities	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
212 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
213 Investor-Owned Entities	478	478	436	412	435	426	418	419	440	476	470	525	541	510	460
214 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	9	5.5
215 Total Non-Utility Generation	694	692	597	518	493	484	472	477	493	626	628	772	804	784	602

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2013 - 2014 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-NUG: Hydro-</i>															
1 Albany	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2 Barber Dam	2.4	2.4	1.9	0.8	0.3	1.0	2.2	2.6	3.3	3.2	3.2	3.1	3.2	3.3	2.3
3 Barney Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Beaverton	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0
5 Bell Mountain	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
6 Big Sheep Creek	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
7 Bingham Engineering	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8 Birch Creek (Clark County)	0	0	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0
9 Birch Creek (Gooding County)	1.3	1.3	1.1	1.0	1.1	1.1	0.3	1.2	1.7	1.6	1.6	1.6	1.3	1.2	1.2
10 Black Canyon #3	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11 Black Creek	3.4	3.4	3.1	3.7	3.4	3.1	3.1	2.8	3.1	3.1	2.8	1.9	2.8	2.8	3.0
12 Blind Canyon Hydro	0.7	0.7	1.1	0.9	0.2	0	0	0	0	0.6	0.6	1.6	1.0	0.7	0.6
13 Boulder Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 Box Canyon	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
15 Briggs Creek	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16 Broadwater Dam	1.1	1.1	1.6	1.9	2.1	1.6	1.6	1.7	1.8	2.8	2.7	3.2	2.7	2.0	2
17 Buffalo Hydro	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18 Burr & Bouchard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Bypass	8.3	8.3	6.5	2.8	1.0	0	0	0	0.1	2.9	2.9	7	8.2	8.7	3.8
20 Canyon Springs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 Carlton	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0	0	0	0
22 Cascade Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Cedar Draw	0.3	0.3	0.9	0.9	0.9	1.2	1.2	1.3	0.4	0.4	0.4	0.4	0.3	0.3	0.7
24 Central OR Irrigation District	3.1	3.1	3.7	3.5	0	0.7	0	0.4	0.9	0.8	0.8	4.5	3.8	4.1	2.1
25 Clear Springs Trout	0.4	0.4	0.4	0.5	0.6	0.6	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4
26 Cornelius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Cowiche	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
28 Crystal Springs	1.3	1.3	1.6	1.5	1.6	0.5	0.5	0.6	0.8	0.9	0.9	0.8	1.4	1.3	1.1
29 Curry Cattle Co.	0.2	0.2	0.2	0.1	0.1	0	0	0	0.1	0.1	0.1	0.2	0.2	0.2	0.1
30 Curtiss Livestock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Dairy Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Deep Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Derr Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1
34 Dietrich Drop	4.7	4.7	3.6	3.1	1.4	0	0	0	0	3.1	3.1	4.7	4.7	4.5	2.5
35 Don Steffen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Donald Jenni	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
37 Dworshak/Clearwater Small Hydropower	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
38 Eagle Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Elk Creek	1.2	1.2	0	0	0	0.1	0.1	0.1	1	1	1	1	1.2	1.2	0.6
40 Eltopia Br Canal 4.6	1.8	1.8	1.2	0.6	0	0	0	0	0	1.4	1.4	2	2	2.2	0.9
41 Estacada	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
42 Fall Creek (OR)	0	0	0	0	1.9	3.1	0.9	2.7	2.7	4.4	4.4	4.1	3.8	0	1.9
43 Falls Creek (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Falls River	6.5	6.5	6.3	5.7	5.6	5.0	4.2	3.8	3.8	6.2	6.2	7.9	8.5	7.1	5.9
45 Farmers Irrig.	0.6	0.6	0.7	1.2	3.2	3.2	2.1	4.6	3.3	3.5	3.5	4.7	0.8	0.7	2.4
46 Faulkner Ranch	0.8	0.8	0.7	0.7	0.7	0.3	0.3	0.3	0.5	0.6	0.6	0.5	0.8	0.8	0.6
47 Fisheries Development Co	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3
48 Galesville Dam	0.6	0.6	0.4	0.2	0.2	0.3	0	0.2	0.3	0.4	0.4	0.3	0.4	0.5	0.3
49 Geobon 2	1.0	1.0	0.3	0.3	0.3	0.2	0.2	0.3	0.6	0.6	0.6	0.6	1.0	1.0	0.5
50 Georgetown Power	0	0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0	0.2
51 Hailey Cspp	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
52 Hazelton A	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
53 Hazelton B	6.6	6.6	5.2	2.4	0.7	0	0	0	0.1	2.2	2.2	5.6	6.4	7.0	3
54 Horseshoe Bend Hydro	8.8	8.8	7.5	3.9	2.8	3.5	3.9	4.6	5.9	8.8	8.8	9.9	9.8	9.2	6.6
55 Hutchinson Creek	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
56 Ingram Warm Springs	0.2	0.2	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4
57 Jim Ford Creek	0	0	0	0	0.3	0.5	0.9	0.9	1.1	1.1	1.1	0.7	0.3	0.1	0.5
58 Jim Knight	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.4	0.2
59 John Day Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
60 Kasel & Witherspoon	0.9	0.9	0.9	0.6	0.4	0.2	0.2	0.2	0.3	0.4	0.4	0.8	0.9	0.8	0.5
61 Kevin Duncan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Koma Kulshan	4.6	4.6	4.3	6.4	8	6.1	3.9	3.8	4.4	6.9	6.9	9.4	10	8.2	6.4
63 Koyle	1.1	1.1	1.1	1.0	1	0.2	0.1	0.1	0.3	0.8	0.8	1.2	0.8	0.9	0.7

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2013 - 2014 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
64 L. Fery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Lacombe Irrig.	0	0	0	0	0.2	1.0	0.2	0.9	0.9	1	1	0.9	0.9	0.4	0.5
66 Lake Oswego	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
67 Lateral #10	1.2	1.2	1.3	1.6	1.7	1.2	1.2	1.3	1.4	1.5	1.5	1.4	1.3	1.2	1.4
68 Lee Tavenner	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
69 Lemoyne	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70 Lilliwaup Falls Generating Co.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Little Mac	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
72 Little Wood River Res.	1.9	1.9	0.2	0.2	0.2	0	0	0	1.6	1.7	1.7	1.6	2	1.9	1.0
73 Littlewood/Arkoosh	0.7	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.5	0.5	0.4	0.8	0.7	0.5
74 Low Line Canal Drop	7.8	7.8	7.5	7.3	7.5	0.6	0.6	0.7	5.3	5.5	5.5	5.3	8.1	7.8	5.3
75 Low Line Midway	2	2	0	0	0	0	0	0	0	0	0	0	2	2	0.5
76 Lower Low Line #2	2.7	2.7	2.5	1.8	1.4	0	0	0.7	1.9	2.5	2.5	2.7	2.7	2.7	1.8
77 Lucky Peak	29	27	20	4.5	0	0.7	0	1.5	1.6	11	11	68	75	73	24
78 Magic Reservoir	6.8	6.8	4.4	0.5	0.2	0.1	0.3	0.1	0.9	3.0	3.0	8.3	9.1	9.0	3.6
79 Main Canal Headworks	20	20	12	5.2	0	0	0	0	2.8	14	14	18	21	24	9.8
80 Malad River	0.5	0.5	0.6	0.5	0.5	0.1	0.1	0	0.2	0.4	0.4	0.6	0.4	0.5	0.4
81 Marco Ranches	1.1	1.1	1.2	1.1	1.2	0	0	0	1.1	1.2	1.2	1.1	1.2	1.1	0.9
82 Marsh Valley	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83 Meyers Falls	1	1	0.9	0.6	0.9	0.9	0.6	0.8	1.1	1.1	1.1	1	1.2	1.1	0.9
84 Middle Fork Irrig.	1.8	1.8	0.8	1.2	1.3	1.7	2.7	3.1	3.1	2.9	2.9	2.8	2.4	2.0	2.2
85 Mile 28	1.3	1.3	1.2	0.7	0.2	0	0	0	0	0.6	0.6	1.2	1.3	1.4	0.7
86 Mill Creek (OR) - City of Cove	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
87 Minikahda	0	0	0	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	0
88 Mink Creek	1.2	1.2	0.8	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.4	1.6	2.7	1.6	0.9
89 Mitchell Butte	1	1	1.1	0.4	0	0	0	0	0.3	0.8	0.8	1.2	1.3	1.1	0.6
90 Mora Canal Drop	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
91 Mountain Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Mt. Tabor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
93 Mud Creek/S&S	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4
94 Mud Creek/White	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1
95 Nichols Gap	0	0	0	0	0.4	0.6	0.2	0.5	0.6	0.4	0.4	0	0	0	0.2
96 Nicholson Sunnybar	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
97 North Fork Sprague	0	0	0.1	0	0	0	0.1	0.3	0.2	0.3	0.3	0.9	0.4	0.1	0.2
98 O.J. Power	0	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
99 Odell Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Opal Springs	2.6	2.6	3.0	3.6	3.2	2.9	2.9	3.5	2.6	2.7	2.7	4.5	1.6	2.2	2.9
101 Orchard Avenue	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
102 Owyhee Dam	2.8	2.8	2.0	0.6	0	0	0.2	0.6	1.8	3.3	3.3	3.9	3.3	3.2	1.8
103 PEC Headworks	4.5	4.5	3.1	2.2	0	0	0	0	0.4	5.1	5.1	6.5	6.2	5.8	2.8
104 Phillips Ranch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105 Phillipsburg	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
106 Pickering Micro Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pigeon Cove	2.0	2.0	2.1	1.3	0.8	0.4	0.3	0.4	0.6	0.8	0.8	1.7	1.9	1.7	1.2
108 Pine Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
109 Portland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Portland Hydro Project	2.3	2.3	2.9	6.7	16	20	18	17	16	17	17	15	8.4	3.2	12
111 Portneuf River	0.2	0.2	0.1	0	0.1	0.1	0	0	0	0	0	0.2	0.6	0.4	0.2
112 Potholes E Canal 66.0	1.8	1.8	1.8	1.6	0	0	0	0	0.6	1.8	1.8	1.8	1.8	1.8	1.1
113 Preston City	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4
114 Pristine Springs	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
115 Pristine Springs #3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
116 Quincy Chute	7.7	7.7	4	2.3	0	0	0	0	0.8	5.5	5.5	7.1	8.4	8.5	3.7
117 Reynolds Irrigation	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
118 Rim View	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
119 Rock Creek #1	1.1	1.1	1.6	1.7	1.2	1.3	1.1	1.0	1.1	1.4	1.4	1.5	1.3	1.1	1.3
120 Rock Creek #2	1.8	1.8	1.8	1.9	1.9	1.9	0.6	0.4	1.6	1.9	1.9	1.9	1.9	1.6	1.6
121 Rocky Brook	0	0	0	0	0.2	0.6	0.6	0.4	0.5	0.5	0.5	0.2	0.1	0	0.3
122 Russel D. Smith	4	4	2.6	1.4	0	0	0	0	0.2	2.4	2.4	3.8	4.2	3.4	1.8
123 Sagebrush	0.4	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.4	0.4	0.3
124 Sahko	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
125 Salem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Schaffner	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.3
127 Sheep Creek	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.9	1.6	1.6	0.8	1.5	1.1	0.7
128 Shingle Creek	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2013 - 2014 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
129 Shoshone	0.3	0.3	0.3	0.3	0.3	0	0	0	0.1	0.2	0.2	0.4	0.2	0.3	0.2
130 Shoshone II	0.6	0.6	0.6	0	0	0	0	0	0	0.3	0.3	0.5	0.6	0.6	0.3
131 Snake River Pottery	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
132 Snedigar Ranch	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2
133 Solar Research	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0
134 South Dry Creek	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0.5	0.5	0.6	0.5	0.5	0.3
135 Spokane Upriver	3.4	3.4	3.4	4.7	6.7	13	14	13	14	13	13	11	12	8.4	9.7
136 Stauffer Dry Creek	0.9	0.9	1	0.8	0.4	0	0.3	0.3	0.4	0.4	0.4	0.9	2.7	2.1	0.9
137 Strawberry Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
138 Summer Falls	79	79	48	22	0	0	0	0	4.8	50	50	71	81	87	37
139 Sunshine Power #2	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
140 Sygitowicz Creek Small Hydro	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0	0	0	0	0	0	0.3
141 Thomas Burnside	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142 Tiber Dam Liberty Montana	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
143 Tieton (Yakima)	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
144 Trout Co.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
145 Tunnel #1	4.3	4.3	2.6	0.5	0	0	0	0	2.4	5.1	5.1	5.8	5.8	5.9	2.7
146 Twin Falls	5	5	0	1.2	9.6	7.9	7.4	4.8	7.8	15	15	13	24	19	9.6
147 Walla Walla	1.5	1.5	1.4	1.3	1.2	1.3	1.2	1.5	1.8	1.8	1.8	1.5	1.5	1.8	1.5
148 Water Street / Santiam	0	0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
149 Weeks Falls	0.8	0.8	0	0.2	1.7	1.8	1.2	0.6	1.2	2.6	2.6	2.4	4.4	3.5	1.7
150 White Water Ranch	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
151 Wilson Lake Hydro	7.1	7.1	5.3	2.0	0.2	0	0	0	0	2.3	2.3	6.1	6.8	7.6	3.1
152 Wisconsin Creek	0	0	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1
153 Woods Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
154 Total NUG: Hydro	318	316	237	160	119	110	100	106	138	266	275	398	433	413	234
-NUG: Small Thermal & Misc.-															
155 Covanta Marion Solid Waste	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
156 Methane Energy Agricultural D.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
157 Montana One	9.6	9.8	9	9.1	9.3	10	11	10	9.2	9.2	9	11	9.1	8.6	9.6
158 Pocatello Waste	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
159 Spokane MSW	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
160 Treasure Valley	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
161 West Boise Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162 Total NUG: Small Thermal & Misc.	39	39	38	38	39	39	40	40	38	38	38	40	38	38	39
-NUG: Co-Generation-															
163 Billings Generation	18	18	17	11	17	19	19	19	17	11	11	20	17	16	17
164 Biomass One	15	15	14	15	14	15	15	13	15	14	14	15	14	15	15
165 Boise Cascade Medford	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166 Champion	3.3	3.3	3.3	3.3	3.3	3.3	1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1
167 Cogen Co	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
168 DR Johnson - Co-Gen II	6.0	6.0	5.8	6.0	5.8	6.0	6.0	5.4	6.0	7.2	0	6.0	5.8	6.0	5.7
169 Everett Cogen Project (Kimberly Clark)	38	38	38	36	36	34	31	34	19	36	36	38	33	38	34
170 Evergreen Biopower Cogen (Freres)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
171 Glens Ferry Cogen Facility (Magic West)	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
172 March Point #1	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
173 March Point #2	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
174 Metro Westpoint	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
175 Potlatch Contract Renewal	50	50	37	42	53	51	53	51	50	44	44	46	46	47	48
176 Rough & Ready Lumber	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
177 Rupert Cogen Facility (Magic Valley)	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
178 Simplot Pocatello	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
179 Stimson Lumber (formerly Haley West)	4.4	4.4	4.3	4.0	4.5	4.1	4.2	4.4	4.5	4.3	4.3	4.1	4	4	4.2
180 Sumas Compression Station	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
181 Tamarack	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
182 TASCO Nampa ID	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
183 TASCO Twin Falls ID	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
184 Vaagen Bros.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
185 Warm Springs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
186 Total NUG: Co-Generation	312	313	297	295	312	310	308	308	293	298	290	310	300	307	304

Table A-24: Regional NUG Resources By Project And Project Type
 PNW Loads and Resource Study
 2013 - 2014 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-NUG: Renewables-</i>															
187 Ashland Solar Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
188 Bettencourt Dairy (Cargill)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
189 Big Sky Dairy	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
190 Chinook Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
191 DeRuyter & Son's Dairy	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
192 Dry Creek Landfill (NUG Renewable)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
193 Emmett Biomass Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
194 Finley Buttes BioEnergy	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
195 Fourmile Hill Geothermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
196 Healow #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
197 Hidden Hollow Landfill	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
198 Josef Staufer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199 Lewandowski Farms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200 Livingston	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201 Pine Products Corp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
202 Portland Waste Water	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
203 Puyallup Energy Recovery (PERC)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
204 Qualco Dairy Digester	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
205 Raft River Geothermal Phase 1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
206 VanderHaak Dairy	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
207 White Bluffs Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
208 Wild Horse Solar	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
209 Windmill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210 Total NUG: Renewables	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
<i>-Total Non-Utility Generating Resources-</i>															
211 Federal Entities	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
212 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
213 Investor-Owned Entities	478	479	436	413	435	426	418	420	441	477	470	525	533	499	458
214 Other Entities	9	9	9	9	1.2	1.2	1.2	1.2	1.2	1.2	9	9	9	19	6.3
215 Total Non-Utility Generation	694	693	598	519	494	484	472	478	494	627	628	772	796	782	602

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-NUG: Hydro-</i>															
1 Albany	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2 Barber Dam	2.4	2.4	1.9	0.8	0.3	1.0	2.2	2.6	3.3	3.2	3.2	3.1	3.2	3.3	2.3
3 Barney Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Beaverton	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0
5 Bell Mountain	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
6 Big Sheep Creek	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
7 Bingham Engineering	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8 Birch Creek (Clark County)	0	0	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0
9 Birch Creek (Gooding County)	1.3	1.3	1.1	1.0	1.1	1.1	0.3	1.2	1.7	1.6	1.6	1.6	1.3	1.2	1.2
10 Black Canyon #3	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11 Black Creek	1.9	2.5	3.4	3.4	3.4	3.1	3.7	3.4	3.1	3.1	2.8	3.1	3.1	2.8	3.1
12 Blind Canyon Hydro	0.7	0.7	1.1	0.9	0.2	0	0	0	0	0.6	0.6	1.6	1.0	0.7	0.6
13 Boulder Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 Box Canyon	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
15 Briggs Creek	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16 Broadwater Dam	1.1	1.1	1.6	1.9	2.1	1.6	1.6	1.7	1.8	2.8	2.7	3.2	2.7	2.0	2
17 Buffalo Hydro	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18 Burr & Bouchard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Bypass	8.3	8.3	6.5	2.8	1.0	0	0	0	0.1	2.9	2.9	7	8.2	8.7	3.8
20 Canyon Springs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 Carlton	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0	0	0	0
22 Cascade Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Cedar Draw	0.3	0.3	0.9	0.9	0.9	1.2	1.2	1.3	0.4	0.4	0.4	0.4	0.3	0.3	0.7
24 Central OR Irrigation District	3.1	3.1	3.7	3.5	0	0.7	0	0.4	0.9	0.8	0.8	4.5	3.8	4.1	2.1
25 Clear Springs Trout	0.4	0.4	0.4	0.5	0.6	0.6	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4
26 Cornelius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Cowiche	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
28 Crystal Springs	1.3	1.3	1.6	1.5	1.6	0.5	0.5	0.6	0.8	0.9	0.9	0.8	1.4	1.3	1.1
29 Curry Cattle Co.	0.2	0.2	0.2	0.1	0.1	0	0	0	0.1	0.1	0.1	0.2	0.2	0.2	0.1
30 Curtiss Livestock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Dairy Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Deep Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Derr Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1
34 Dietrich Drop	4.7	4.7	3.6	3.1	1.4	0	0	0	0	3.1	3.1	4.7	4.7	4.5	2.5
35 Don Steffen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Donald Jenni	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
37 Dworshak/Clearwater Small Hydropower	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
38 Eagle Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Elk Creek	1.2	1.2	0	0	0	0.1	0.1	0.1	1	1	1	1	1.2	1.2	0.6
40 Eltopia Br Canal 4.6	1.8	1.8	1.2	0.6	0	0	0	0	0	1.4	1.4	2	2	2.2	0.9
41 Estacada	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
42 Fall Creek (OR)	0	0	0	0	1.9	3.1	0.9	2.7	2.7	4.4	4.4	4.1	3.8	0	1.9
43 Falls Creek (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Falls River	6.5	6.5	6.3	5.7	5.6	5.0	4.2	3.8	3.8	6.2	6.2	7.9	8.5	7.1	5.9
45 Farmers Irrig.	0.6	0.6	0.7	1.2	3.2	3.2	2.1	4.6	3.3	3.5	3.5	4.7	0.8	0.7	2.4
46 Faulkner Ranch	0.8	0.8	0.7	0.7	0.7	0.3	0.3	0.3	0.5	0.6	0.6	0.5	0.8	0.8	0.6
47 Fisheries Development Co	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3
48 Galesville Dam	0.6	0.6	0.4	0.2	0.2	0.3	0	0.2	0.3	0.4	0.4	0.3	0.4	0.5	0.3
49 Geobon 2	1.0	1.0	0.3	0.3	0.3	0.2	0.2	0.3	0.6	0.6	0.6	0.6	1.0	1.0	0.5
50 Georgetown Power	0	0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0	0.2
51 Hailey Cspg	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
52 Hazelton A	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
53 Hazelton B	6.6	6.6	5.2	2.4	0.7	0	0	0	0.1	2.2	2.2	5.6	6.4	7.0	3
54 Horseshoe Bend Hydro	8.8	8.8	7.5	3.9	2.8	3.5	3.9	4.6	5.9	8.8	8.8	9.9	9.8	9.2	6.6
55 Hutchinson Creek	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
56 Ingram Warm Springs	0.2	0.2	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4
57 Jim Ford Creek	0	0	0	0	0.3	0.5	0.9	0.9	1.1	1.1	1.1	0.7	0.3	0.1	0.5
58 Jim Knight	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.4	0.2
59 John Day Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
60 Kasel & Witherspoon	0.9	0.9	0.9	0.6	0.4	0.2	0.2	0.2	0.3	0.4	0.4	0.8	0.9	0.8	0.5
61 Kevin Duncan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Koma Kulshan	4.6	4.6	4.3	6.4	8	6.1	3.9	3.8	4.4	6.9	6.9	9.4	10	8.2	6.4
63 Koyle	1.1	1.1	1.1	1.0	1	0.2	0.1	0.1	0.3	0.8	0.8	1.2	0.8	0.9	0.7

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
64 L. Fery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Lacombe Irrig.	0	0	0	0	0.2	1.0	0.2	0.9	0.9	1	1	0.9	0.9	0.4	0.5
66 Lake Oswego	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
67 Lateral #10	1.2	1.2	1.3	1.6	1.7	1.2	1.2	1.3	1.4	1.5	1.5	1.4	1.3	1.2	1.4
68 Lee Tavenner	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
69 Lemoyne	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70 Lilliwaup Falls Generating Co.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Little Mac	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
72 Little Wood River Res.	1.9	1.9	0.2	0.2	0.2	0	0	0	1.6	1.7	1.7	1.6	2	1.9	1.0
73 Littlewood/Arkoosh	0.7	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.5	0.5	0.4	0.8	0.7	0.5
74 Low Line Canal Drop	7.8	7.8	7.5	7.3	7.5	0.6	0.6	0.7	5.3	5.5	5.5	5.3	8.1	7.8	5.3
75 Low Line Midway	2	2	0	0	0	0	0	0	0	0	0	0	2	2	0.5
76 Lower Low Line #2	2.7	2.7	2.5	1.8	1.4	0	0	0.7	1.9	2.5	2.5	2.7	2.7	2.7	1.8
77 Lucky Peak	29	27	20	4.5	0	0.7	0	1.5	1.6	11	11	68	75	73	24
78 Magic Reservoir	6.8	6.8	4.4	0.5	0.2	0.1	0.3	0.1	0.9	3.0	3.0	8.3	9.1	9.0	3.6
79 Main Canal Headworks	20	20	12	5.2	0	0	0	0	2.8	14	14	18	21	24	9.8
80 Malad River	0.5	0.5	0.6	0.5	0.5	0.1	0.1	0	0.2	0.4	0.4	0.6	0.4	0.5	0.4
81 Marco Ranches	1.1	1.1	1.2	1.1	1.2	0	0	0	1.1	1.2	1.2	1.1	1.2	1.1	0.9
82 Marsh Valley	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83 Meyers Falls	1	1	0.9	0.6	0.9	0.9	0.6	0.8	1.1	1.1	1.1	1	1.2	1.1	0.9
84 Middle Fork Irrig.	1.8	1.8	0.8	1.2	1.3	1.7	2.7	3.1	3.1	2.9	2.9	2.8	2.4	2.0	2.2
85 Mile 28	1.3	1.3	1.2	0.7	0.2	0	0	0	0	0.6	0.6	1.2	1.3	1.4	0.7
86 Mill Creek (OR) - City of Cove	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
87 Minikahda	0	0	0	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	0
88 Mink Creek	1.2	1.2	0.8	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.4	1.6	2.7	1.6	0.9
89 Mitchell Butte	1	1	1.1	0.4	0	0	0	0	0.3	0.8	0.8	1.2	1.3	1.1	0.6
90 Mora Canal Drop	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
91 Mountain Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Mt. Tabor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
93 Mud Creek/S&S	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4
94 Mud Creek/White	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1
95 Nichols Gap	0	0	0	0	0.4	0.6	0.2	0.5	0.6	0.4	0.4	0	0	0	0.2
96 Nicholson Sunnybar	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
97 North Fork Sprague	0	0	0.1	0	0	0	0.1	0.3	0.2	0.3	0.3	0.9	0.4	0.1	0.2
98 O.J. Power	0	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
99 Odell Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Opal Springs	2.6	2.6	3.0	3.6	3.2	2.9	2.9	3.5	2.6	2.7	2.7	4.5	1.6	2.2	2.9
101 Orchard Avenue	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
102 Owyhee Dam	2.8	2.8	2.0	0.6	0	0	0.2	0.6	1.8	3.3	3.3	3.9	3.3	3.2	1.8
103 PEC Headworks	4.5	4.5	3.1	2.2	0	0	0	0	0.4	5.1	5.1	6.5	6.2	5.8	2.8
104 Phillips Ranch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105 Phillipsburg	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
106 Pickering Micro Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pigeon Cove	2.0	2.0	2.1	1.3	0.8	0.4	0.3	0.4	0.6	0.8	0.8	1.7	1.9	1.7	1.2
108 Pine Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
109 Portland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Portland Hydro Project	2.3	2.3	2.9	6.7	16	20	18	17	16	17	17	15	8.4	3.2	12
111 Portneuf River	0.2	0.2	0.1	0	0.1	0.1	0	0	0	0	0	0.2	0.6	0.4	0.2
112 Potholes E Canal 66.0	1.8	1.8	1.8	1.6	0	0	0	0	0.6	1.8	1.8	1.8	1.8	1.8	1.1
113 Preston City	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4
114 Pristine Springs	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
115 Pristine Springs #3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
116 Quincy Chute	7.7	7.7	4	2.3	0	0	0	0	0.8	5.5	5.5	7.1	8.4	8.5	3.7
117 Reynolds Irrigation	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
118 Rim View	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
119 Rock Creek #1	1.1	1.1	1.6	1.7	1.2	1.3	1.1	1.0	1.1	1.4	1.4	1.5	1.3	1.1	1.3
120 Rock Creek #2	1.8	1.8	1.8	1.9	1.9	1.9	0.6	0.4	1.6	1.9	1.9	1.9	1.9	1.6	1.6
121 Rocky Brook	0	0	0	0	0.2	0.6	0.6	0.4	0.5	0.5	0.5	0.2	0.1	0	0.3
122 Russel D. Smith	4	4	2.6	1.4	0	0	0	0	0.2	2.4	2.4	3.8	4.2	3.4	1.8
123 Sagebrush	0.4	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.4	0.4	0.3
124 Sahko	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
125 Salem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Schaffner	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.3
127 Sheep Creek	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.9	1.6	1.6	0.8	1.5	1.1	0.7
128 Shingle Creek	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
129 Shoshone	0.3	0.3	0.3	0.3	0.3	0	0	0	0.1	0.2	0.2	0.4	0.2	0.3	0.2
130 Shoshone II	0.6	0.6	0.6	0	0	0	0	0	0	0.3	0.3	0.5	0.6	0.6	0.3
131 Snake River Pottery	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
132 Snedigar Ranch	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2
133 Solar Research	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0
134 South Dry Creek	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0.5	0.5	0.6	0.5	0.5	0.3
135 Spokane Upriver	3.4	3.4	3.4	4.7	6.7	13	14	13	14	13	13	11	12	8.4	9.7
136 Stauffer Dry Creek	0.9	0.9	1	0.8	0.4	0	0.3	0.3	0.4	0.4	0.4	0.9	2.7	2.1	0.9
137 Strawberry Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
138 Summer Falls	79	79	48	22	0	0	0	0	4.8	50	50	71	81	87	37
139 Sunshine Power #2	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
140 Thomas Burnside	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Tiber Dam Liberty Montana	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
142 Tieton (Yakima)	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
143 Trout Co.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
144 Tunnel #1	4.3	4.3	2.6	0.5	0	0	0	0	2.4	5.1	5.1	5.8	5.8	5.9	2.7
145 Twin Falls	5	5	0	1.2	9.6	7.9	7.4	4.8	7.8	15	15	13	24	19	9.6
146 Walla Walla	1.5	1.5	1.4	1.3	1.2	1.3	1.2	1.5	1.8	1.8	1.8	1.5	1.5	1.8	1.5
147 Water Street / Santiam	0	0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
148 Weeks Falls	0.8	0.8	0	0.2	1.7	1.8	1.2	0.6	1.2	2.6	2.6	2.4	4.4	3.5	1.7
149 White Water Ranch	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
150 Wilson Lake Hydro	7.1	7.1	5.3	2.0	0.2	0	0	0	0	2.3	2.3	6.1	6.8	7.6	3.1
151 Wisconsin Creek	0	0	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1
152 Woods Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
153 Total NUG: Hydro	316	315	237	160	119	110	100	106	138	266	275	399	433	413	234
-NUG: Small Thermal & Misc.-															
154 Covanta Marion Solid Waste	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
155 Methane Energy Agricultural D.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
156 Montana One	9.6	9.8	9	9.1	9.3	10	11	10	9.2	9.2	9	11	9.1	8.6	9.6
157 Pocatello Waste	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
158 Spokane MSW	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
159 Treasure Valley	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
160 West Boise Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161 Total NUG: Small Thermal & Misc.	39	39	38	38	39	39	40	40	38	38	38	40	38	38	39
-NUG: Co-Generation-															
162 Billings Generation	18	18	17	11	17	19	19	19	17	11	11	20	17	16	17
163 Biomass One	15	15	14	15	14	15	15	13	15	14	14	15	14	15	15
164 Boise Cascade Medford	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165 Champion	3.3	3.3	3.3	3.3	3.3	3.3	1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1
166 Cogen Co	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
167 DR Johnson - Co-Gen II	6.0	6.0	5.8	6.0	5.8	6.0	6.0	5.4	6.0	7.2	0	6.0	5.8	6.0	5.7
168 Everett Cogen Project (Kimberly Clark)	38	38	38	36	36	34	31	34	19	36	36	38	33	38	34
169 Evergreen Biopower Cogen (Freres)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
170 Glens Ferry Cogen Facility (Magic West)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
171 March Point #1	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
172 March Point #2	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
173 Metro Westpoint	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
174 Potlatch Contract Renewal	50	50	37	42	53	51	53	51	50	44	44	46	46	47	48
175 Rough & Ready Lumber	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
176 Rupert Cogen Facility (Magic Valley)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
177 Simplot Pocatello	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
178 Stimson Lumber (formerly Haley West)	4.4	4.4	4.3	4.0	4.5	4.1	4.2	4.4	4.5	4.3	4.3	4.1	4	4	4.2
179 Sumas Compression Station	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
180 Tamarack	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
181 TESCO Nampa ID	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
182 TESCO Twin Falls ID	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
183 Vaagen Bros.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
184 Warm Springs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
185 Total NUG: Co-Generation	314	315	299	297	314	312	310	310	295	300	292	312	302	309	306
-NUG: Renewables-															

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2014 - 2015 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
186 Ashland Solar Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
187 Bettencourt Dairy (Cargill)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
188 Big Sky Dairy	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
189 Chinook Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
190 DeRuyter & Son's Dairy	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
191 Dry Creek Landfill (NUG Renewable)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
192 Emmett Biomass Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
193 Finley Buttes BioEnergy	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
194 Fourmile Hill Geothermal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
195 Healow #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
196 Hidden Hollow Landfill	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
197 Josef Staufer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
198 Lewandowski Farms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199 Livingston	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200 Pine Products Corp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201 Portland Waste Water	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
202 Puyallup Energy Recovery (PERC)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
203 Qualco Dairy Digester	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
204 Raft River Geothermal Phase 1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
205 VanderHaak Dairy	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
206 White Bluffs Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
207 Wild Horse Solar	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
208 Windmill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209 Total NUG: Renewables	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
<i>-Total Non-Utility Generating Resources-</i>															
210 Federal Entities	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
211 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
212 Investor-Owned Entities	468	470	428	405	427	418	411	412	434	469	462	519	526	501	451
213 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
214 Total Non-Utility Generation	694	693	599	520	496	486	474	480	496	629	630	775	799	784	603

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-NUG: Hydro-</i>															
1 Albany	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2 Barber Dam	2.4	2.4	1.9	0.8	0.3	1.0	2.2	2.6	3.3	3.2	3.2	3.1	3.2	3.3	2.3
3 Barney Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Beaverton	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0
5 Bell Mountain	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
6 Big Sheep Creek	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
7 Bingham Engineering	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8 Birch Creek (Clark County)	0	0	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0
9 Birch Creek (Gooding County)	1.3	1.3	1.1	1.0	1.1	1.1	0.3	1.2	1.7	1.6	1.6	1.6	1.3	1.2	1.2
10 Black Canyon #3	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11 Black Creek	1.9	2.8	2.8	1.9	2.5	3.4	3.4	3.4	3.1	3.7	3.4	3.1	3.1	2.8	2.9
12 Blind Canyon Hydro	0.7	0.7	1.1	0.9	0.2	0	0	0	0	0.6	0.6	1.6	1.0	0.7	0.6
13 Boulder Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 Box Canyon	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
15 Briggs Creek	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16 Broadwater Dam	1.1	1.1	1.6	1.9	2.1	1.6	1.6	1.7	1.8	2.8	2.7	3.2	2.7	2.0	2
17 Buffalo Hydro	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18 Burr & Bouchard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Bypass	8.3	8.3	6.5	2.8	1.0	0	0	0	0.1	2.9	2.9	7	8.2	8.7	3.8
20 Canyon Springs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 Carlton	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0	0	0	0
22 Cascade Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Cedar Draw	0.3	0.3	0.9	0.9	0.9	1.2	1.2	1.3	0.4	0.4	0.4	0.4	0.3	0.3	0.7
24 Central OR Irrigation District	3.1	3.1	3.7	3.5	0	0.7	0	0.4	0.9	0.8	0.8	4.5	3.8	4.1	2.1
25 Clear Springs Trout	0.4	0.4	0.4	0.5	0.6	0.6	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4
26 Cornelius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Cowiche	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
28 Crystal Springs	1.3	1.3	1.6	1.5	1.6	0.5	0.5	0.6	0.8	0.9	0.9	0.8	1.4	1.3	1.1
29 Curry Cattle Co.	0.2	0.2	0.2	0.1	0.1	0	0	0	0.1	0.1	0.1	0.2	0.2	0.2	0.1
30 Curtiss Livestock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Dairy Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Deep Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Derr Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1
34 Dietrich Drop	4.7	4.7	3.6	3.1	1.4	0	0	0	0	3.1	3.1	4.7	4.7	4.5	2.5
35 Don Steffen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Donald Jenni	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
37 Dworshak/Clearwater Small Hydropower	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
38 Eagle Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Elk Creek	1.2	1.2	0	0	0	0.1	0.1	0.1	1	1	1	1	1.2	1.2	0.6
40 Eltopia Br Canal 4.6	1.8	1.8	1.2	0.6	0	0	0	0	0	1.4	1.4	2	2	2.2	0.9
41 Estacada	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
42 Fall Creek (OR)	0	0	0	0	1.9	3.1	0.9	2.7	2.7	4.4	4.4	4.1	3.8	0	2.0
43 Falls Creek (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Falls River	6.5	6.5	6.3	5.7	5.6	5.0	4.2	3.8	3.8	6.2	6.2	7.9	8.5	7.1	5.9
45 Farmers Irrig.	0.6	0.6	0.7	1.2	3.2	3.2	2.1	4.6	3.3	3.5	3.5	4.7	0.8	0.7	2.4
46 Faulkner Ranch	0.8	0.8	0.7	0.7	0.7	0.3	0.3	0.3	0.5	0.6	0.6	0.5	0.8	0.8	0.6
47 Fisheries Development Co	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3
48 Galesville Dam	0.6	0.6	0.4	0.2	0.2	0.3	0	0.2	0.3	0.4	0.4	0.3	0.4	0.5	0.3
49 Geobon 2	1.0	1.0	0.3	0.3	0.3	0.2	0.2	0.3	0.6	0.6	0.6	0.6	1.0	1.0	0.5
50 Georgetown Power	0	0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0	0.2
51 Hailey Cspg	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
52 Hazelton A	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
53 Hazelton B	6.6	6.6	5.2	2.4	0.7	0	0	0	0.1	2.2	2.2	5.6	6.4	7.0	3
54 Horseshoe Bend Hydro	8.8	8.8	7.5	3.9	2.8	3.5	3.9	4.6	5.9	8.8	8.8	9.9	9.8	9.2	6.6
55 Hutchinson Creek	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
56 Ingram Warm Springs	0.2	0.2	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4
57 Jim Ford Creek	0	0	0	0	0.3	0.5	0.9	0.9	1.1	1.1	1.1	0.7	0.3	0.1	0.5
58 Jim Knight	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.4	0.2
59 John Day Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
60 Kasel & Witherspoon	0.9	0.9	0.9	0.6	0.4	0.2	0.2	0.2	0.3	0.4	0.4	0.8	0.9	0.8	0.5
61 Kevin Duncan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Koma Kulshan	4.6	4.6	4.3	6.4	8	6.1	3.9	3.8	4.4	6.9	6.9	9.4	10	8.2	6.4
63 Koyle	1.1	1.1	1.1	1.0	1	0.2	0.1	0.1	0.3	0.8	0.8	1.2	0.8	0.9	0.7

Table A-24: Regional NUG Resources By Project And Project Type
 PNW Loads and Resource Study
 2015 - 2016 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
64 L. Fery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Lacombe Irrig.	0	0	0	0	0.2	1.0	0.2	0.9	0.9	1	1	0.9	0.9	0.4	0.5
66 Lake Oswego	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
67 Lateral #10	1.2	1.2	1.3	1.6	1.7	1.2	1.2	1.3	1.4	1.5	1.5	1.4	1.3	1.2	1.4
68 Lee Tavenner	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
69 Lemoyne	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70 Lilliwaup Falls Generating Co.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Little Mac	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
72 Little Wood River Res.	1.9	1.9	0.2	0.2	0.2	0	0	0	1.6	1.7	1.7	1.6	2	1.9	1.0
73 Littlewood/Arkoosh	0.7	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.5	0.5	0.4	0.8	0.7	0.5
74 Low Line Canal Drop	7.8	7.8	7.5	7.3	7.5	0.6	0.6	0.7	5.3	5.5	5.5	5.3	8.1	7.8	5.3
75 Low Line Midway	2	2	0	0	0	0	0	0	0	0	0	0	2	2	0.5
76 Lower Low Line #2	2.7	2.7	2.5	1.8	1.4	0	0	0.7	1.9	2.5	2.5	2.7	2.7	2.7	1.8
77 Lucky Peak	29	27	20	4.5	0	0.7	0	1.5	1.6	11	11	68	75	73	24
78 Magic Reservoir	6.8	6.8	4.4	0.5	0.2	0.1	0.3	0.1	0.9	3.0	3.0	8.3	9.1	9.0	3.6
79 Main Canal Headworks	20	20	12	5.2	0	0	0	0	2.8	14	14	18	21	24	9.8
80 Malad River	0.5	0.5	0.6	0.5	0.5	0.1	0.1	0	0.2	0.4	0.4	0.6	0.4	0.5	0.4
81 Marco Ranches	1.1	1.1	1.2	1.1	1.2	0	0	0	1.1	1.2	1.2	1.1	1.2	1.1	0.9
82 Marsh Valley	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83 Meyers Falls	1	1	0.9	0.6	0.9	0.9	0.6	0.8	1.1	1.1	1.1	1	1.2	1.1	0.9
84 Middle Fork Irrig.	1.8	1.8	0.8	1.2	1.3	1.7	2.7	3.1	3.1	2.9	2.9	2.8	2.4	2.0	2.2
85 Mile 28	1.3	1.3	1.2	0.7	0.2	0	0	0	0	0.6	0.6	1.2	1.3	1.4	0.7
86 Mill Creek (OR) - City of Cove	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
87 Minikahda	0	0	0	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	0
88 Mink Creek	1.2	1.2	0.8	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.4	1.6	2.7	1.6	0.9
89 Mitchell Butte	1	1	1.1	0.4	0	0	0	0	0.3	0.8	0.8	1.2	1.3	1.1	0.6
90 Mora Canal Drop	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
91 Mountain Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Mt. Tabor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
93 Mud Creek/S&S	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4
94 Mud Creek/White	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1
95 Nichols Gap	0	0	0	0	0.4	0.6	0.2	0.5	0.6	0.4	0.4	0	0	0	0.2
96 Nicholson Sunnybar	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
97 North Fork Sprague	0	0	0.1	0	0	0	0.1	0.3	0.2	0.3	0.3	0.9	0.4	0.1	0.2
98 O.J. Power	0	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
99 Odell Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Opal Springs	2.6	2.6	3.0	3.6	3.2	2.9	2.9	3.5	2.6	2.7	2.7	4.5	1.6	2.2	2.9
101 Orchard Avenue	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
102 Owyhee Dam	2.8	2.8	2.0	0.6	0	0	0.2	0.6	1.8	3.3	3.3	3.9	3.3	3.2	1.8
103 PEC Headworks	4.5	4.5	3.1	2.2	0	0	0	0	0.4	5.1	5.1	6.5	6.2	5.8	2.8
104 Phillips Ranch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105 Phillipsburg	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
106 Pickering Micro Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pigeon Cove	2.0	2.0	2.1	1.3	0.8	0.4	0.3	0.4	0.6	0.8	0.8	1.7	1.9	1.7	1.2
108 Pine Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
109 Portland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Portland Hydro Project	2.3	2.3	2.9	6.7	16	20	18	17	16	17	17	15	8.4	3.2	12
111 Portneuf River	0.2	0.2	0.1	0	0.1	0.1	0	0	0	0	0	0.2	0.6	0.4	0.1
112 Potholes E Canal 66.0	1.8	1.8	1.8	1.6	0	0	0	0	0.6	1.8	1.8	1.8	1.8	1.8	1.1
113 Preston City	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4
114 Pristine Springs	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
115 Pristine Springs #3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
116 Quincy Chute	7.7	7.7	4	2.3	0	0	0	0	0.8	5.5	5.5	7.1	8.4	8.5	3.7
117 Reynolds Irrigation	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
118 Rim View	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
119 Rock Creek #1	1.1	1.1	1.6	1.7	1.2	1.3	1.1	1.0	1.1	1.4	1.4	1.5	1.3	1.1	1.3
120 Rock Creek #2	1.8	1.8	1.8	1.9	1.9	1.9	0.6	0.4	1.6	1.9	1.9	1.9	1.9	1.6	1.6
121 Rocky Brook	0	0	0	0	0.2	0.6	0.6	0.4	0.5	0.5	0.5	0.2	0.1	0	0.3
122 Russel D. Smith	4	4	2.6	1.4	0	0	0	0	0.2	2.4	2.4	3.8	4.2	3.4	1.8
123 Sagebrush	0.4	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.4	0.4	0.3
124 Sahko	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
125 Salem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Schaffner	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.3
127 Sheep Creek	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.9	1.6	1.6	0.8	1.5	1.1	0.7
128 Shingle Creek	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
129 Shoshone	0.3	0.3	0.3	0.3	0.3	0	0	0	0.1	0.2	0.2	0.4	0.2	0.3	0.2
130 Shoshone II	0.6	0.6	0.6	0	0	0	0	0	0	0.3	0.3	0.5	0.6	0.6	0.3
131 Snake River Pottery	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
132 Snedigar Ranch	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2
133 Solar Research	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0
134 South Dry Creek	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0.5	0.5	0.6	0.5	0.5	0.3
135 Spokane Upriver	3.4	3.4	3.4	4.7	6.7	13	14	13	14	13	13	11	12	8.4	9.7
136 Stauffer Dry Creek	0.9	0.9	1	0.8	0.4	0	0.3	0.3	0.4	0.4	0.4	0.9	2.7	2.1	0.8
137 Strawberry Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
138 Summer Falls	79	79	48	22	0	0	0	0	4.8	50	50	71	81	87	37
139 Sunshine Power #2	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
140 Thomas Burnside	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Tiber Dam Liberty Montana	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
142 Tieton (Yakima)	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.2
143 Trout Co.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
144 Tunnel #1	4.3	4.3	2.6	0.5	0	0	0	0	2.4	5.1	5.1	5.8	5.8	5.9	2.7
145 Twin Falls	5	5	0	1.2	9.6	7.9	7.4	4.8	7.8	15	15	13	24	19	9.6
146 Walla Walla	1.5	1.5	1.4	1.3	1.2	1.3	1.2	1.5	1.8	1.8	1.8	1.5	1.5	1.8	1.5
147 Water Street / Santiam	0	0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
148 Weeks Falls	0.8	0.8	0	0.2	1.7	1.8	1.2	0.6	1.2	2.6	2.6	2.4	4.4	3.5	1.7
149 White Water Ranch	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
150 Wilson Lake Hydro	7.1	7.1	5.3	2.0	0.2	0	0	0	0	2.3	2.3	6.1	6.8	7.6	3.1
151 Wisconsin Creek	0	0	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1
152 Woods Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
153 Total NUG: Hydro	316	315	236	158	118	110	100	106	138	266	275	399	433	413	234
-NUG: Small Thermal & Misc.-															
154 Covanta Marion Solid Waste	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
155 Methane Energy Agricultural D.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
156 Montana One	9.6	9.8	9	9.1	9.3	10	11	10	9.2	9.2	9	11	9.1	8.6	9.6
157 Pocatello Waste	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
158 Spokane MSW	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
159 Treasure Valley	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
160 West Boise Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161 Total NUG: Small Thermal & Misc.	39	39	38	38	39	39	40	40	38	38	38	40	38	38	39
-NUG: Co-Generation-															
162 Billings Generation	18	18	17	11	17	19	19	19	17	11	11	20	17	16	17
163 Biomass One	15	15	14	15	14	15	15	14	15	14	14	15	14	15	15
164 Boise Cascade Medford	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165 Champion	3.3	3.3	3.3	3.3	3.3	3.3	1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1
166 Cogen Co	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
167 DR Johnson - Co-Gen II	6.0	6.0	5.8	6.0	5.8	6.0	6.0	5.6	6.0	7.2	0	6.0	5.8	6.0	5.7
168 Everett Cogen Project (Kimberly Clark)	38	38	38	36	36	34	31	34	19	36	36	38	33	38	34
169 Evergreen Biopower Cogen (Freres)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
170 Glens Ferry Cogen Facility (Magic West)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
171 March Point #1	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
172 March Point #2	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
173 Metro Westpoint	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
174 Potlatch Contract Renewal	50	50	37	42	53	51	53	51	50	44	44	46	46	47	48
175 Rough & Ready Lumber	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
176 Rupert Cogen Facility (Magic Valley)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
177 Simplot Pocatello	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
178 Stimson Lumber (formerly Haley West)	4.4	4.4	4.3	4.0	4.5	4.1	4.2	4.4	4.5	4.3	4.3	4.1	4	4	4.2
179 Sumas Compression Station	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
180 Tamarack	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
181 TESCO Nampa ID	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
182 TESCO Twin Falls ID	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
183 Vaagen Bros.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
184 Warm Springs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
185 Total NUG: Co-Generation	314	315	299	297	314	312	310	311	295	300	292	312	302	309	306
-NUG: Renewables-															

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2015 - 2016 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
186 Ashland Solar Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
187 Bettencourt Dairy (Cargill)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
188 Big Sky Dairy	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
189 Chinook Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
190 DeRuyter & Son's Dairy	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
191 Dry Creek Landfill (NUG Renewable)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
192 Emmett Biomass Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
193 Finley Buttes BioEnergy	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
194 Fourmile Hill Geothermal	0	0	0	50	50	50	50	50	50	50	50	50	50	50	42
195 Healow #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
196 Hidden Hollow Landfill	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
197 Josef Staufer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
198 Lewandowski Farms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199 Livingston	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200 Pine Products Corp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201 Portland Waste Water	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
202 Puyallup Energy Recovery (PERC)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
203 Qualco Dairy Digester	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
204 Raft River Geothermal Phase 1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
205 VanderHaak Dairy	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
206 White Bluffs Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
207 Wild Horse Solar	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
208 Windmill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209 Total NUG: Renewables	25	25	25	75	75	75	75	75	75	75	75	75	75	75	66
<i>-Total Non-Utility Generating Resources-</i>															
210 Federal Entities	2.8	2.8	2.8	53	53	53	53	53	53	53	53	53	53	53	44
211 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
212 Investor-Owned Entities	468	470	428	403	426	419	410	413	434	469	463	519	526	501	451
213 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
214 Total Non-Utility Generation	694	693	599	568	545	536	524	531	546	679	680	825	849	834	645

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-NUG: Hydro-</i>															
1 Albany	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2 Barber Dam	2.4	2.4	1.9	0.8	0.3	1.0	2.2	2.6	3.3	3.2	3.2	3.1	3.2	3.3	2.3
3 Barney Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Beaverton	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0
5 Bell Mountain	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
6 Big Sheep Creek	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
7 Bingham Engineering	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8 Birch Creek (Clark County)	0	0	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0
9 Birch Creek (Gooding County)	1.3	1.3	1.1	1.0	1.1	1.1	0.3	1.2	1.7	1.6	1.6	1.6	1.3	1.2	1.2
10 Black Canyon #3	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11 Black Creek	3.1	3.1	2.8	1.9	2.8	2.8	3.4	3.4	3.1	3.7	3.4	3.1	3.1	2.8	3.0
12 Blind Canyon Hydro	0.7	0.7	1.1	0.9	0.2	0	0	0	0	0.6	0.6	1.6	1.0	0.7	0.6
13 Boulder Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 Box Canyon	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
15 Briggs Creek	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16 Broadwater Dam	1.1	1.1	1.6	1.9	2.1	1.6	1.6	1.7	1.8	2.8	2.7	3.2	2.7	2.0	2
17 Buffalo Hydro	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18 Burr & Bouchard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Bypass	8.3	8.3	6.5	2.8	1.0	0	0	0	0.1	2.9	2.9	7	8.2	8.7	3.8
20 Canyon Springs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 Carlton	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0	0	0	0
22 Cascade Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Cedar Draw	0.3	0.3	0.9	0.9	0.9	1.2	1.2	1.3	0.4	0.4	0.4	0.4	0.3	0.3	0.7
24 Central OR Irrigation District	3.1	3.1	3.7	3.5	0	0.7	0	0.4	0.9	0.8	0.8	4.5	3.8	4.1	2.1
25 Clear Springs Trout	0.4	0.4	0.4	0.5	0.6	0.6	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4
26 Cornelius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Cowiche	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
28 Crystal Springs	1.3	1.3	1.6	1.5	1.6	0.5	0.5	0.6	0.8	0.9	0.9	0.8	1.4	1.3	1.1
29 Curry Cattle Co.	0.2	0.2	0.2	0.1	0.1	0	0	0	0.1	0.1	0.1	0.2	0.2	0.2	0.1
30 Curtiss Livestock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Dairy Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Deep Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Derr Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1
34 Dietrich Drop	4.7	4.7	3.6	3.1	1.4	0	0	0	0	3.1	3.1	4.7	4.7	4.5	2.5
35 Don Steffen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Donald Jenni	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
37 Dworshak/Clearwater Small Hydropower	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
38 Eagle Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Elk Creek	1.2	1.2	0	0	0	0.1	0.1	0.1	1	1	1	1	1.2	1.2	0.6
40 Eltopia Br Canal 4.6	1.8	1.8	1.2	0.6	0	0	0	0	0	1.4	1.4	2	2	2.2	0.9
41 Estacada	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
42 Fall Creek (OR)	0	0	0	0	1.9	3.1	0.9	2.7	2.7	4.4	4.4	4.1	3.8	0	1.9
43 Falls Creek (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Falls River	6.5	6.5	6.3	5.7	5.6	5.0	4.2	3.8	3.8	6.2	6.2	7.9	8.5	7.1	5.9
45 Farmers Irrig.	0.6	0.6	0.7	1.2	3.2	3.2	2.1	4.6	3.3	3.5	3.5	4.7	0.8	0.7	2.4
46 Faulkner Ranch	0.8	0.8	0.7	0.7	0.7	0.3	0.3	0.3	0.5	0.6	0.6	0.5	0.8	0.8	0.6
47 Fisheries Development Co	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3
48 Galesville Dam	0.6	0.6	0.4	0.2	0.2	0.3	0	0.2	0.3	0.4	0.4	0.3	0.4	0.5	0.3
49 Geobon 2	1.0	1.0	0.3	0.3	0.3	0.2	0.2	0.3	0.6	0.6	0.6	0.6	1.0	1.0	0.5
50 Georgetown Power	0	0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0	0.2
51 Hailey Cspp	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
52 Hazelton A	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
53 Hazelton B	6.6	6.6	5.2	2.4	0.7	0	0	0	0.1	2.2	2.2	5.6	6.4	7.0	3
54 Horseshoe Bend Hydro	8.8	8.8	7.5	3.9	2.8	3.5	3.9	4.6	5.9	8.8	8.8	9.9	9.8	9.2	6.6
55 Hutchinson Creek	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
56 Ingram Warm Springs	0.2	0.2	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4
57 Jim Ford Creek	0	0	0	0	0.3	0.5	0.9	0.9	1.1	1.1	1.1	0.7	0.3	0.1	0.5
58 Jim Knight	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.4	0.2
59 John Day Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
60 Kasel & Witherspoon	0.9	0.9	0.9	0.6	0.4	0.2	0.2	0.2	0.3	0.4	0.4	0.8	0.9	0.8	0.5
61 Kevin Duncan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Koma Kulshan	4.6	4.6	4.3	6.4	8	6.1	3.9	3.8	4.4	6.9	6.9	9.4	10	8.2	6.4
63 Koyle	1.1	1.1	1.1	1.0	1	0.2	0.1	0.1	0.3	0.8	0.8	1.2	0.8	0.9	0.7

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
64 L. Fery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Lacombe Irrig.	0	0	0	0	0.2	1.0	0.2	0.9	0.9	1	1	0.9	0.9	0.4	0.5
66 Lake Oswego	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
67 Lateral #10	1.2	1.2	1.3	1.6	1.7	1.2	1.2	1.3	1.4	1.5	1.5	1.4	1.3	1.2	1.4
68 Lee Tavenner	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
69 Lemoyne	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70 Lilliwaup Falls Generating Co.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Little Mac	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
72 Little Wood River Res.	1.9	1.9	0.2	0.2	0.2	0	0	0	1.6	1.7	1.7	1.6	2	1.9	1.0
73 Littlewood/Arkoosh	0.7	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.5	0.5	0.4	0.8	0.7	0.5
74 Low Line Canal Drop	7.8	7.8	7.5	7.3	7.5	0.6	0.6	0.7	5.3	5.5	5.5	5.3	8.1	7.8	5.3
75 Low Line Midway	2	2	0	0	0	0	0	0	0	0	0	0	2	2	0.5
76 Lower Low Line #2	2.7	2.7	2.5	1.8	1.4	0	0	0.7	1.9	2.5	2.5	2.7	2.7	2.7	1.8
77 Lucky Peak	29	27	20	4.5	0	0.7	0	1.5	1.6	11	11	68	75	73	24
78 Magic Reservoir	6.8	6.8	4.4	0.5	0.2	0.1	0.3	0.1	0.9	3.0	3.0	8.3	9.1	9.0	3.6
79 Main Canal Headworks	20	20	12	5.2	0	0	0	0	2.8	14	14	18	21	24	9.8
80 Malad River	0.5	0.5	0.6	0.5	0.5	0.1	0.1	0	0.2	0.4	0.4	0.6	0.4	0.5	0.4
81 Marco Ranches	1.1	1.1	1.2	1.1	1.2	0	0	0	1.1	1.2	1.2	1.1	1.2	1.1	0.9
82 Marsh Valley	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83 Meyers Falls	1	1	0.9	0.6	0.9	0.9	0.6	0.8	1.1	1.1	1.1	1	1.2	1.1	0.9
84 Middle Fork Irrig.	1.8	1.8	0.8	1.2	1.3	1.7	2.7	3.1	3.1	2.9	2.9	2.8	2.4	2.0	2.2
85 Mile 28	1.3	1.3	1.2	0.7	0.2	0	0	0	0	0.6	0.6	1.2	1.3	1.4	0.7
86 Mill Creek (OR) - City of Cove	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
87 Minikahda	0	0	0	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	0
88 Mink Creek	1.2	1.2	0.8	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.4	1.6	2.7	1.6	0.9
89 Mitchell Butte	1	1	1.1	0.4	0	0	0	0	0.3	0.8	0.8	1.2	1.3	1.1	0.6
90 Mora Canal Drop	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
91 Mountain Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Mt. Tabor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
93 Mud Creek/S&S	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4
94 Mud Creek/White	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1
95 Nichols Gap	0	0	0	0	0.4	0.6	0.2	0.5	0.6	0.4	0.4	0	0	0	0.2
96 Nicholson Sunnybar	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
97 North Fork Sprague	0	0	0.1	0	0	0	0.1	0.3	0.2	0.3	0.3	0.9	0.4	0.1	0.2
98 O.J. Power	0	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
99 Odell Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Opal Springs	2.6	2.6	3.0	3.6	3.2	2.9	2.9	3.5	2.6	2.7	2.7	4.5	1.6	2.2	2.9
101 Orchard Avenue	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
102 Owyhee Dam	2.8	2.8	2.0	0.6	0	0	0.2	0.6	1.8	3.3	3.3	3.9	3.3	3.2	1.8
103 PEC Headworks	4.5	4.5	3.1	2.2	0	0	0	0	0.4	5.1	5.1	6.5	6.2	5.8	2.8
104 Phillips Ranch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105 Phillipsburg	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
106 Pickering Micro Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pigeon Cove	2.0	2.0	2.1	1.3	0.8	0.4	0.3	0.4	0.6	0.8	0.8	1.7	1.9	1.7	1.2
108 Pine Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
109 Portland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Portland Hydro Project	2.3	2.3	2.9	6.7	16	20	18	17	16	17	17	15	8.4	3.2	12
111 Portneuf River	0.2	0.2	0.1	0	0.1	0.1	0	0	0	0	0	0.2	0.6	0.4	0.2
112 Potholes E Canal 66.0	1.8	1.8	1.8	1.6	0	0	0	0	0.6	1.8	1.8	1.8	1.8	1.8	1.1
113 Preston City	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4
114 Pristine Springs	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
115 Pristine Springs #3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
116 Quincy Chute	7.7	7.7	4	2.3	0	0	0	0	0.8	5.5	5.5	7.1	8.4	8.5	3.7
117 Reynolds Irrigation	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
118 Rim View	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
119 Rock Creek #1	1.1	1.1	1.6	1.7	1.2	1.3	1.1	1.0	1.1	1.4	1.4	1.5	1.3	1.1	1.3
120 Rock Creek #2	1.8	1.8	1.8	1.9	1.9	1.9	0.6	0.4	1.6	1.9	1.9	1.9	1.9	1.6	1.6
121 Rocky Brook	0	0	0	0	0.2	0.6	0.6	0.4	0.5	0.5	0.5	0.2	0.1	0	0.3
122 Russel D. Smith	4	4	2.6	1.4	0	0	0	0	0.2	2.4	2.4	3.8	4.2	3.4	1.8
123 Sagebrush	0.4	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.4	0.4	0.3
124 Sahko	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
125 Salem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Schaffner	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.3
127 Sheep Creek	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.9	1.6	1.6	0.8	1.5	1.1	0.7
128 Shingle Creek	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
129 Shoshone	0.3	0.3	0.3	0.3	0.3	0	0	0	0.1	0.2	0.2	0.4	0.2	0.3	0.2
130 Shoshone II	0.6	0.6	0.6	0	0	0	0	0	0	0.3	0.3	0.5	0.6	0.6	0.3
131 Snake River Pottery	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
132 Snedigar Ranch	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2
133 Solar Research	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0
134 South Dry Creek	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0.5	0.5	0.6	0.5	0.5	0.3
135 Spokane Upriver	3.4	3.4	3.4	4.7	6.7	13	14	13	14	13	13	11	12	8.4	9.7
136 Stauffer Dry Creek	0.9	0.9	1	0.8	0.4	0	0.3	0.3	0.4	0.4	0.4	0.9	2.7	2.1	0.9
137 Strawberry Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
138 Summer Falls	79	79	48	22	0	0	0	0	4.8	50	50	71	81	87	37
139 Sunshine Power #2	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
140 Thomas Burnside	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Tiber Dam Liberty Montana	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
142 Tieton (Yakima)	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
143 Trout Co.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
144 Tunnel #1	4.3	4.3	2.6	0.5	0	0	0	0	2.4	5.1	5.1	5.8	5.8	5.9	2.7
145 Twin Falls	5	5	0	1.2	9.6	7.9	7.4	4.8	7.8	15	15	13	24	19	9.6
146 Walla Walla	1.5	1.5	1.4	1.3	1.2	1.3	1.2	1.5	1.8	1.8	1.8	1.5	1.5	1.8	1.5
147 Water Street / Santiam	0	0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
148 Weeks Falls	0.8	0.8	0	0.2	1.7	1.8	1.2	0.6	1.2	2.6	2.6	2.4	4.4	3.5	1.7
149 White Water Ranch	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
150 Wilson Lake Hydro	7.1	7.1	5.3	2.0	0.2	0	0	0	0	2.3	2.3	6.1	6.8	7.6	3.1
151 Wisconsin Creek	0	0	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1
152 Woods Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
153 Total NUG: Hydro	317	315	236	158	118	110	100	106	138	266	275	399	433	413	234
-NUG: Small Thermal & Misc.-															
154 Covanta Marion Solid Waste	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
155 Methane Energy Agricultural D.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
156 Montana One	9.6	9.8	9	9.1	9.3	10	11	10	9.2	9.2	9	11	9.1	8.6	9.6
157 Pocatello Waste	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
158 Spokane MSW	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
159 Treasure Valley	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
160 West Boise Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161 Total NUG: Small Thermal & Misc.	39	39	38	38	39	39	40	40	38	38	38	40	38	38	39
-NUG: Co-Generation-															
162 Billings Generation	18	18	17	11	17	19	19	19	17	11	11	20	17	16	17
163 Biomass One	15	15	14	15	14	15	15	13	15	14	14	15	14	15	15
164 Boise Cascade Medford	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165 Champion	3.3	3.3	3.3	3.3	3.3	3.3	1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1
166 Cogen Co	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
167 DR Johnson - Co-Gen II	6.0	6.0	5.8	6.0	5.8	6.0	6.0	5.4	6.0	7.2	0	6.0	5.8	6.0	5.7
168 Everett Cogen Project (Kimberly Clark)	38	38	38	36	36	34	31	34	19	36	36	38	33	38	34
169 Evergreen Biopower Cogen (Freres)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
170 Glens Ferry Cogen Facility (Magic West)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
171 March Point #1	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
172 March Point #2	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
173 Metro Westpoint	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
174 Potlatch Contract Renewal	50	50	37	42	53	51	53	51	50	44	44	46	46	47	48
175 Rough & Ready Lumber	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
176 Rupert Cogen Facility (Magic Valley)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
177 Simplot Pocatello	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
178 Stimson Lumber (formerly Haley West)	4.4	4.4	4.3	4.0	4.5	4.1	4.2	4.4	4.5	4.3	4.3	4.1	4	4	4.2
179 Sumas Compression Station	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
180 Tamarack	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
181 TESCO Nampa ID	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
182 TESCO Twin Falls ID	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
183 Vaagen Bros.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
184 Warm Springs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
185 Total NUG: Co-Generation	314	315	299	297	314	312	310	310	295	300	292	312	302	309	306
-NUG: Renewables-															

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2016 - 2017 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
186 Ashland Solar Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
187 Bettencourt Dairy (Cargill)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
188 Big Sky Dairy	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
189 Chinook Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
190 DeRuyter & Son's Dairy	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
191 Dry Creek Landfill (NUG Renewable)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
192 Emmett Biomass Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
193 Finley Buttes BioEnergy	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
194 Fourmile Hill Geothermal	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
195 Healow #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
196 Hidden Hollow Landfill	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
197 Josef Staufer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
198 Lewandowski Farms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199 Livingston	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200 Pine Products Corp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201 Portland Waste Water	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
202 Puyallup Energy Recovery (PERC)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
203 Qualco Dairy Digester	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
204 Raft River Geothermal Phase 1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
205 VanderHaak Dairy	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
206 White Bluffs Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
207 Wild Horse Solar	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
208 Windmill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209 Total NUG: Renewables	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
<i>-Total Non-Utility Generating Resources-</i>															
210 Federal Entities	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
211 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
212 Investor-Owned Entities	469	470	428	403	427	418	410	412	434	469	463	519	526	501	451
213 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
214 Total Non-Utility Generation	745	744	649	568	545	535	524	530	546	679	680	825	849	834	653

Table A-24: Regional NUG Resources By Project And Project Type
 PNW Loads and Resource Study
 2017 - 2018 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-NUG: Hydro-</i>															
1 Albany	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2 Barber Dam	2.4	2.4	1.9	0.8	0.3	1.0	2.2	2.6	3.3	3.2	3.2	3.1	3.2	3.3	2.3
3 Barney Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Beaverton	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0
5 Bell Mountain	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
6 Big Sheep Creek	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
7 Bingham Engineering	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8 Birch Creek (Clark County)	0	0	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0
9 Birch Creek (Gooding County)	1.3	1.3	1.1	1.0	1.1	1.1	0.3	1.2	1.7	1.6	1.6	1.6	1.3	1.2	1.2
10 Black Canyon #3	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11 Black Creek	3.1	3.1	2.8	1.9	2.8	2.8	3.4	3.4	3.1	3.7	3.4	3.1	3.1	2.8	3.0
12 Blind Canyon Hydro	0.7	0.7	1.1	0.9	0.2	0	0	0	0	0.6	0.6	1.6	1.0	0.7	0.6
13 Boulder Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 Box Canyon	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
15 Briggs Creek	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16 Broadwater Dam	1.1	1.1	1.6	1.9	2.1	1.6	1.6	1.7	1.8	2.8	2.7	3.2	2.7	2.0	2
17 Buffalo Hydro	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18 Burr & Bouchard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Bypass	8.3	8.3	6.5	2.8	1.0	0	0	0	0.1	2.9	2.9	7	8.2	8.7	3.8
20 Canyon Springs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 Carlton	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0	0	0	0
22 Cascade Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Cedar Draw	0.3	0.3	0.9	0.9	0.9	1.2	1.2	1.3	0.4	0.4	0.4	0.4	0.3	0.3	0.7
24 Central OR Irrigation District	3.1	3.1	3.7	3.5	0	0.7	0	0.4	0.9	0.8	0.8	4.5	3.8	4.1	2.1
25 Clear Springs Trout	0.4	0.4	0.4	0.5	0.6	0.6	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4
26 Cornelius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Cowiche	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
28 Crystal Springs	1.3	1.3	1.6	1.5	1.6	0.5	0.5	0.6	0.8	0.9	0.9	0.8	1.4	1.3	1.1
29 Curry Cattle Co.	0.2	0.2	0.2	0.1	0.1	0	0	0	0.1	0.1	0.1	0.2	0.2	0.2	0.1
30 Curtiss Livestock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Dairy Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Deep Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Derr Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1
34 Dietrich Drop	4.7	4.7	3.6	3.1	1.4	0	0	0	0	3.1	3.1	4.7	4.7	4.5	2.5
35 Don Steffen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Donald Jenni	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
37 Dworshak/Clearwater Small Hydropower	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
38 Eagle Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Elk Creek	1.2	1.2	0	0	0	0.1	0.1	0.1	1	1	1	1	1.2	1.2	0.6
40 Eltopia Br Canal 4.6	1.8	1.8	1.2	0.6	0	0	0	0	0	1.4	1.4	2	2	2.2	0.9
41 Estacada	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
42 Fall Creek (OR)	0	0	0	0	1.9	3.1	0.9	2.7	2.7	4.4	4.4	4.1	3.8	0	1.9
43 Falls Creek (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Falls River	6.5	6.5	6.3	5.7	5.6	5.0	4.2	3.8	3.8	6.2	6.2	7.9	8.5	7.1	5.9
45 Farmers Irrig.	0.6	0.6	0.7	1.2	3.2	3.2	2.1	4.6	3.3	3.5	3.5	4.7	0.8	0.7	2.4
46 Faulkner Ranch	0.8	0.8	0.7	0.7	0.7	0.3	0.3	0.3	0.5	0.6	0.6	0.5	0.8	0.8	0.6
47 Fisheries Development Co	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3
48 Galesville Dam	0.6	0.6	0.4	0.2	0.2	0.3	0	0.2	0.3	0.4	0.4	0.3	0.4	0.5	0.3
49 Geobon 2	1.0	1.0	0.3	0.3	0.3	0.2	0.2	0.3	0.6	0.6	0.6	0.6	1.0	1.0	0.5
50 Georgetown Power	0	0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0	0.2
51 Hailey Cspg	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
52 Hazelton A	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
53 Hazelton B	6.6	6.6	5.2	2.4	0.7	0	0	0	0.1	2.2	2.2	5.6	6.4	7.0	3
54 Horseshoe Bend Hydro	8.8	8.8	7.5	3.9	2.8	3.5	3.9	4.6	5.9	8.8	8.8	9.9	9.8	9.2	6.6
55 Hutchinson Creek	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
56 Ingram Warm Springs	0.2	0.2	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4
57 Jim Ford Creek	0	0	0	0	0.3	0.5	0.9	0.9	1.1	1.1	1.1	0.7	0.3	0.1	0.5
58 Jim Knight	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.4	0.2
59 John Day Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
60 Kasel & Witherspoon	0.9	0.9	0.9	0.6	0.4	0.2	0.2	0.2	0.3	0.4	0.4	0.8	0.9	0.8	0.5
61 Kevin Duncan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Koma Kulshan	4.6	4.6	4.3	6.4	8	6.1	3.9	3.8	4.4	6.9	6.9	9.4	10	8.2	6.4
63 Koyle	1.1	1.1	1.1	1.0	1	0.2	0.1	0.1	0.3	0.8	0.8	1.2	0.8	0.9	0.7

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
64 L. Fery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Lacombe Irrig.	0	0	0	0	0.2	1.0	0.2	0.9	0.9	1	1	0.9	0.9	0.4	0.5
66 Lake Oswego	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
67 Lateral #10	1.2	1.2	1.3	1.6	1.7	1.2	1.2	1.3	1.4	1.5	1.5	1.4	1.3	1.2	1.4
68 Lee Tavenner	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
69 Lemoyne	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70 Lilliwaup Falls Generating Co.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Little Mac	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
72 Little Wood River Res.	1.9	1.9	0.2	0.2	0.2	0	0	0	1.6	1.7	1.7	1.6	2	1.9	1.0
73 Littlewood/Arkoosh	0.7	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.5	0.5	0.4	0.8	0.7	0.5
74 Low Line Canal Drop	7.8	7.8	7.5	7.3	7.5	0.6	0.6	0.7	5.3	5.5	5.5	5.3	8.1	7.8	5.3
75 Low Line Midway	2	2	0	0	0	0	0	0	0	0	0	0	2	2	0.5
76 Lower Low Line #2	2.7	2.7	2.5	1.8	1.4	0	0	0.7	1.9	2.5	2.5	2.7	2.7	2.7	1.8
77 Lucky Peak	29	27	20	4.5	0	0.7	0	1.5	1.6	11	11	68	75	73	24
78 Magic Reservoir	6.8	6.8	4.4	0.5	0.2	0.1	0.3	0.1	0.9	3.0	3.0	8.3	9.1	9.0	3.6
79 Main Canal Headworks	20	20	12	5.2	0	0	0	0	2.8	14	14	18	21	24	9.8
80 Malad River	0.5	0.5	0.6	0.5	0.5	0.1	0.1	0	0.2	0.4	0.4	0.6	0.4	0.5	0.4
81 Marco Ranches	1.1	1.1	1.2	1.1	1.2	0	0	0	1.1	1.2	1.2	1.1	1.2	1.1	0.9
82 Marsh Valley	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83 Meyers Falls	1	1	0.9	0.6	0.9	0.9	0.6	0.8	1.1	1.1	1.1	1	1.2	1.1	0.9
84 Middle Fork Irrig.	1.8	1.8	0.8	1.2	1.3	1.7	2.7	3.1	3.1	2.9	2.9	2.8	2.4	2.0	2.2
85 Mile 28	1.3	1.3	1.2	0.7	0.2	0	0	0	0	0.6	0.6	1.2	1.3	1.4	0.7
86 Mill Creek (OR) - City of Cove	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
87 Minikahda	0	0	0	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	0
88 Mink Creek	1.2	1.2	0.8	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.4	1.6	2.7	1.6	0.9
89 Mitchell Butte	1	1	1.1	0.4	0	0	0	0	0.3	0.8	0.8	1.2	1.3	1.1	0.6
90 Mora Canal Drop	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
91 Mountain Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Mt. Tabor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
93 Mud Creek/S&S	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4
94 Mud Creek/White	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1
95 Nichols Gap	0	0	0	0	0.4	0.6	0.2	0.5	0.6	0.4	0.4	0	0	0	0.2
96 Nicholson Sunnybar	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
97 North Fork Sprague	0	0	0.1	0	0	0	0.1	0.3	0.2	0.3	0.3	0.9	0.4	0.1	0.2
98 O.J. Power	0	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
99 Odell Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Opal Springs	2.6	2.6	3.0	3.6	3.2	2.9	2.9	3.5	2.6	2.7	2.7	4.5	1.6	2.2	2.9
101 Orchard Avenue	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
102 Owyhee Dam	2.8	2.8	2.0	0.6	0	0	0.2	0.6	1.8	3.3	3.3	3.9	3.3	3.2	1.8
103 PEC Headworks	4.5	4.5	3.1	2.2	0	0	0	0	0.4	5.1	5.1	6.5	6.2	5.8	2.8
104 Phillips Ranch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105 Phillipsburg	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
106 Pickering Micro Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pigeon Cove	2.0	2.0	2.1	1.3	0.8	0.4	0.3	0.4	0.6	0.8	0.8	1.7	1.9	1.7	1.2
108 Pine Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
109 Portland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Portland Hydro Project	2.3	2.3	2.9	6.7	16	20	18	17	16	17	17	15	8.4	3.2	12
111 Portneuf River	0.2	0.2	0.1	0	0.1	0.1	0	0	0	0	0	0.2	0.6	0.4	0.2
112 Potholes E Canal 66.0	1.8	1.8	1.8	1.6	0	0	0	0	0.6	1.8	1.8	1.8	1.8	1.8	1.1
113 Preston City	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4
114 Pristine Springs	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
115 Pristine Springs #3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
116 Quincy Chute	7.7	7.7	4	2.3	0	0	0	0	0.8	5.5	5.5	7.1	8.4	8.5	3.7
117 Reynolds Irrigation	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
118 Rim View	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
119 Rock Creek #1	1.1	1.1	1.6	1.7	1.2	1.3	1.1	1.0	1.1	1.4	1.4	1.5	1.3	1.1	1.3
120 Rock Creek #2	1.8	1.8	1.8	1.9	1.9	1.9	0.6	0.4	1.6	1.9	1.9	1.9	1.9	1.6	1.6
121 Rocky Brook	0	0	0	0	0.2	0.6	0.6	0.4	0.5	0.5	0.5	0.2	0.1	0	0.3
122 Russel D. Smith	4	4	2.6	1.4	0	0	0	0	0.2	2.4	2.4	3.8	4.2	3.4	1.8
123 Sagebrush	0.4	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.4	0.4	0.3
124 Sahko	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
125 Salem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Schaffner	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.3
127 Sheep Creek	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.9	1.6	1.6	0.8	1.5	1.1	0.7
128 Shingle Creek	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
129 Shoshone	0.3	0.3	0.3	0.3	0.3	0	0	0	0.1	0.2	0.2	0.4	0.2	0.3	0.2
130 Shoshone II	0.6	0.6	0.6	0	0	0	0	0	0	0.3	0.3	0.5	0.6	0.6	0.3
131 Snake River Pottery	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
132 Snedigar Ranch	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2
133 Solar Research	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0
134 South Dry Creek	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0.5	0.5	0.6	0.5	0.5	0.3
135 Spokane Upriver	3.4	3.4	3.4	4.7	6.7	13	14	13	14	13	13	11	12	8.4	9.7
136 Stauffer Dry Creek	0.9	0.9	1	0.8	0.4	0	0.3	0.3	0.4	0.4	0.4	0.9	2.7	2.1	0.9
137 Strawberry Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
138 Summer Falls	79	79	48	22	0	0	0	0	4.8	50	50	71	81	87	37
139 Sunshine Power #2	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
140 Thomas Burnside	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Tiber Dam Liberty Montana	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
142 Tieton (Yakima)	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
143 Trout Co.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
144 Tunnel #1	4.3	4.3	2.6	0.5	0	0	0	0	2.4	5.1	5.1	5.8	5.8	5.9	2.7
145 Twin Falls	5	5	0	1.2	9.6	7.9	7.4	4.8	7.8	15	15	13	24	19	9.6
146 Walla Walla	1.5	1.5	1.4	1.3	1.2	1.3	1.2	1.5	1.8	1.8	1.8	1.5	1.5	1.8	1.5
147 Water Street / Santiam	0	0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
148 Weeks Falls	0.8	0.8	0	0.2	1.7	1.8	1.2	0.6	1.2	2.6	2.6	2.4	4.4	3.5	1.7
149 White Water Ranch	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
150 Wilson Lake Hydro	7.1	7.1	5.3	2.0	0.2	0	0	0	0	2.3	2.3	6.1	6.8	7.6	3.1
151 Wisconsin Creek	0	0	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1
152 Woods Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
153 Total NUG: Hydro	317	315	236	158	118	110	100	106	138	266	275	399	433	413	234
-NUG: Small Thermal & Misc.-															
154 Covanta Marion Solid Waste	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
155 Methane Energy Agricultural D.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
156 Montana One	9.6	9.8	9	9.1	9.3	10	11	10	9.2	9.2	9	11	9.1	8.6	9.6
157 Pocatello Waste	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
158 Spokane MSW	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
159 Treasure Valley	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
160 West Boise Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161 Total NUG: Small Thermal & Misc.	39	39	38	38	39	39	40	40	38	38	38	40	38	38	39
-NUG: Co-Generation-															
162 Billings Generation	18	18	17	11	17	19	19	19	17	11	11	20	17	16	17
163 Biomass One	15	15	14	15	14	15	15	13	15	14	14	15	14	15	15
164 Boise Cascade Medford	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165 Champion	3.3	3.3	3.3	3.3	3.3	3.3	1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1
166 Cogen Co	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
167 DR Johnson - Co-Gen II	6.0	6.0	5.8	6.0	5.8	6.0	6.0	5.4	6.0	7.2	0	6.0	5.8	6.0	5.7
168 Everett Cogen Project (Kimberly Clark)	38	38	38	36	36	34	31	34	19	36	36	38	33	38	34
169 Evergreen Biopower Cogen (Freres)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
170 Glens Ferry Cogen Facility (Magic West)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
171 March Point #1	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
172 March Point #2	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
173 Metro Westpoint	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
174 Pottlatch Contract Renewal	50	50	37	42	53	51	53	51	50	44	44	46	46	47	48
175 Rough & Ready Lumber	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
176 Rupert Cogen Facility (Magic Valley)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
177 Simplot Pocatello	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
178 Stimson Lumber (formerly Haley West)	4.4	4.4	4.3	4.0	4.5	4.1	4.2	4.4	4.5	4.3	4.3	4.1	4	4	4.2
179 Sumas Compression Station	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
180 Tamarack	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
181 TESCO Nampa ID	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
182 TESCO Twin Falls ID	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
183 Vaagen Bros.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
184 Warm Springs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
185 Total NUG: Co-Generation	314	315	299	297	314	312	310	310	295	300	292	312	302	309	306
-NUG: Renewables-															

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2017 - 2018 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
186 Ashland Solar Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
187 Bettencourt Dairy (Cargill)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
188 Big Sky Dairy	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
189 Chinook Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
190 DeRuyter & Son's Dairy	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
191 Dry Creek Landfill (NUG Renewable)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
192 Emmett Biomass Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
193 Finley Buttes BioEnergy	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
194 Fourmile Hill Geothermal	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
195 Healow #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
196 Hidden Hollow Landfill	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
197 Josef Staufer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
198 Lewandowski Farms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199 Livingston	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200 Pine Products Corp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201 Portland Waste Water	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
202 Puyallup Energy Recovery (PERC)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
203 Qualco Dairy Digester	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
204 Raft River Geothermal Phase 1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
205 VanderHaak Dairy	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
206 White Bluffs Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
207 Wild Horse Solar	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
208 Windmill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209 Total NUG: Renewables	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
-Total Non-Utility Generating Resources-															
210 Federal Entities	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
211 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
212 Investor-Owned Entities	469	470	428	403	427	418	410	412	434	469	463	519	526	501	451
213 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
214 Total Non-Utility Generation	745	744	649	568	545	535	524	530	546	679	680	825	849	834	653

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-NUG: Hydro-</i>															
1 Albany	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2 Barber Dam	2.4	2.4	1.9	0.8	0.3	1.0	2.2	2.6	3.3	3.2	3.2	3.1	3.2	3.3	2.3
3 Barney Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Beaverton	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0
5 Bell Mountain	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
6 Big Sheep Creek	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
7 Bingham Engineering	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8 Birch Creek (Clark County)	0	0	0.1	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0
9 Birch Creek (Gooding County)	1.3	1.3	1.1	1.0	1.1	1.1	0.3	1.2	1.7	1.6	1.6	1.6	1.3	1.2	1.2
10 Black Canyon #3	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11 Black Creek	3.1	3.1	2.8	1.9	2.8	2.8	3.4	3.4	3.1	3.7	3.4	3.1	3.1	2.8	3.0
12 Blind Canyon Hydro	0.7	0.7	1.1	0.9	0.2	0	0	0	0	0.6	0.6	1.6	1.0	0.7	0.6
13 Boulder Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
14 Box Canyon	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
15 Briggs Creek	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6
16 Broadwater Dam	1.1	1.1	1.6	1.9	2.1	1.6	1.6	1.7	1.8	2.8	2.7	3.2	2.7	2.0	2
17 Buffalo Hydro	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18 Burr & Bouchard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Bypass	8.3	8.3	6.5	2.8	1.0	0	0	0.1	2.9	2.9	7	8.2	8.7	8.3	4.3
20 Canyon Springs	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21 Carlton	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0	0	0	0
22 Cascade Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Cedar Draw	0.3	0.3	0.9	0.9	0.9	1.2	1.2	1.3	0.4	0.4	0.4	0.4	0.3	0.3	0.7
24 Central OR Irrigation District	3.1	3.1	3.7	3.5	0	0.7	0	0.4	0.9	0.8	0.8	4.5	3.8	4.1	2.1
25 Clear Springs Trout	0.4	0.4	0.4	0.5	0.6	0.6	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4
26 Cornelius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Cowiche	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
28 Crystal Springs	1.3	1.3	1.6	1.5	1.6	0.5	0.5	0.6	0.8	0.9	0.9	0.8	1.4	1.3	1.1
29 Curry Cattle Co.	0.2	0.2	0.2	0.1	0.1	0	0	0	0.1	0.1	0.1	0.2	0.2	0.2	0.1
30 Curtiss Livestock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Dairy Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Deep Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Derr Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1
34 Dietrich Drop	4.7	4.7	3.6	3.1	1.4	0	0	0	0	3.1	3.1	4.7	4.7	4.5	2.5
35 Don Steffen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 Donald Jenni	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
37 Dworshak/Clearwater Small Hydropower	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
38 Eagle Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 Elk Creek	1.2	1.2	0	0	0	0.1	0.1	0.1	1	1	1	1	1.2	1.2	0.6
40 Eltopia Br Canal 4.6	1.8	1.8	1.2	0.6	0	0	0	0	0	1.4	1.4	2	2	2.2	0.9
41 Estacada	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
42 Fall Creek (OR)	0	0	0	0	1.9	3.1	0.9	2.7	2.7	4.4	4.4	4.1	3.8	0	1.9
43 Falls Creek (WA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44 Falls River	6.5	6.5	6.3	5.7	5.6	5.0	4.2	3.8	3.8	6.2	6.2	7.9	8.5	7.1	5.9
45 Farmers Irrig.	0.6	0.6	0.7	1.2	3.2	3.2	2.1	4.6	3.3	3.5	3.5	4.7	0.8	0.7	2.4
46 Faulkner Ranch	0.8	0.8	0.7	0.7	0.7	0.3	0.3	0.3	0.5	0.6	0.6	0.5	0.8	0.8	0.6
47 Fisheries Development Co	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3
48 Galesville Dam	0.6	0.6	0.4	0.2	0.2	0.3	0	0.2	0.3	0.4	0.4	0.3	0.4	0.5	0.3
49 Geobon 2	1.0	1.0	0.3	0.3	0.3	0.2	0.2	0.3	0.6	0.6	0.6	0.6	1.0	1.0	0.5
50 Georgetown Power	0	0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0	0.2
51 Hailey Cspp	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
52 Hazelton A	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
53 Hazelton B	6.6	6.6	5.2	2.4	0.7	0	0	0	0.1	2.2	2.2	5.6	6.4	7.0	3
54 Horseshoe Bend Hydro	8.8	8.8	7.5	3.9	2.8	3.5	3.9	4.6	5.9	8.8	8.8	9.9	9.8	9.2	6.6
55 Hutchinson Creek	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
56 Ingram Warm Springs	0.2	0.2	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4
57 Jim Ford Creek	0	0	0	0	0.3	0.5	0.9	0.9	1.1	1.1	1.1	0.7	0.3	0.1	0.5
58 Jim Knight	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.4	0.2
59 John Day Creek	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
60 Kasel & Witherspoon	0.9	0.9	0.9	0.6	0.4	0.2	0.2	0.2	0.3	0.4	0.4	0.8	0.9	0.8	0.5
61 Kevin Duncan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62 Koma Kulshan	4.6	4.6	4.3	6.4	8	6.1	3.9	3.8	4.4	6.9	6.9	9.4	10	8.2	6.4
63 Koyle	1.1	1.1	1.1	1.0	1	0.2	0.1	0.1	0.3	0.8	0.8	1.2	0.8	0.9	0.7

Table A-24: Regional NUG Resources By Project And Project Type
 PNW Loads and Resource Study
 2018 - 2019 Operating Year
 [61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
64 L. Fery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65 Lacombe Irrig.	0	0	0	0	0.2	1.0	0.2	0.9	0.9	1	1	0.9	0.9	0.4	0.5
66 Lake Oswego	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
67 Lateral #10	1.2	1.2	1.3	1.6	1.7	1.2	1.2	1.3	1.4	1.5	1.5	1.4	1.3	1.2	1.4
68 Lee Tavenner	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
69 Lemoyne	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70 Lilliwaup Falls Generating Co.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71 Little Mac	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
72 Little Wood River Res.	1.9	1.9	0.2	0.2	0.2	0	0	0	1.6	1.7	1.7	1.6	2	1.9	1.0
73 Littlewood/Arkoosh	0.7	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.5	0.5	0.4	0.8	0.7	0.5
74 Low Line Canal Drop	7.8	7.8	7.5	7.3	7.5	0.6	0.6	0.7	5.3	5.5	5.5	5.3	8.1	7.8	5.3
75 Low Line Midway	2	2	0	0	0	0	0	0	0	0	0	0	2	2	0.5
76 Lower Low Line #2	2.7	2.7	2.5	1.8	1.4	0	0	0.7	1.9	2.5	2.5	2.7	2.7	2.7	1.8
77 Lucky Peak	29	27	20	4.5	0	0.7	0	1.5	1.6	11	11	68	75	73	24
78 Magic Reservoir	6.8	6.8	4.4	0.5	0.2	0.1	0.3	0.1	0.9	3.0	3.0	8.3	9.1	9.0	3.6
79 Main Canal Headworks	20	20	12	5.2	0	0	0	0	2.8	14	14	18	21	24	9.8
80 Malad River	0.5	0.5	0.6	0.5	0.5	0.1	0.1	0	0.2	0.4	0.4	0.6	0.4	0.5	0.4
81 Marco Ranches	1.1	1.1	1.2	1.1	1.2	0	0	0	1.1	1.2	1.2	1.1	1.2	1.1	0.9
82 Marsh Valley	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83 Meyers Falls	1	1	0.9	0.6	0.9	0.9	0.6	0.8	1.1	1.1	1.1	1	1.2	1.1	0.9
84 Middle Fork Irrig.	1.8	1.8	0.8	1.2	1.3	1.7	2.7	3.1	3.1	2.9	2.9	2.8	2.4	2.0	2.2
85 Mile 28	1.3	1.3	1.2	0.7	0.2	0	0	0	0	0.6	0.6	1.2	1.3	1.4	0.7
86 Mill Creek (OR) - City of Cove	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
87 Minikahda	0	0	0	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	0
88 Mink Creek	1.2	1.2	0.8	0.6	0.6	0.5	0.4	0.4	0.3	0.4	0.4	1.6	2.7	1.6	0.9
89 Mitchell Butte	1	1	1.1	0.4	0	0	0	0	0.3	0.8	0.8	1.2	1.3	1.1	0.6
90 Mora Canal Drop	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
91 Mountain Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92 Mt. Tabor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
93 Mud Creek/S&S	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4
94 Mud Creek/White	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1
95 Nichols Gap	0	0	0	0	0.4	0.6	0.2	0.5	0.6	0.4	0.4	0	0	0	0.2
96 Nicholson Sunnybar	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
97 North Fork Sprague	0	0	0.1	0	0	0	0.1	0.3	0.2	0.3	0.3	0.9	0.4	0.1	0.2
98 O.J. Power	0	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
99 Odell Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100 Opal Springs	2.6	2.6	3.0	3.6	3.2	2.9	2.9	3.5	2.6	2.7	2.7	4.5	1.6	2.2	2.9
101 Orchard Avenue	0.8	0.8	0.8	0.8	0	0	0	0	0	0	0.8	0.8	0.8	0.8	0.4
102 Owyhee Dam	2.8	2.8	2.0	0.6	0	0	0.2	0.6	1.8	3.3	3.3	3.9	3.3	3.2	1.8
103 PEC Headworks	4.5	4.5	3.1	2.2	0	0	0	0	0.4	5.1	5.1	6.5	6.2	5.8	2.8
104 Phillips Ranch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105 Phillipsburg	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
106 Pickering Micro Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107 Pigeon Cove	2.0	2.0	2.1	1.3	0.8	0.4	0.3	0.4	0.6	0.8	0.8	1.7	1.9	1.7	1.2
108 Pine Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
109 Portland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110 Portland Hydro Project	2.3	2.3	2.9	6.7	16	20	18	17	16	17	17	15	8.4	3.2	12
111 Portneuf River	0.2	0.2	0.1	0	0.1	0.1	0	0	0	0	0	0.2	0.6	0.4	0.2
112 Potholes E Canal 66.0	1.8	1.8	1.8	1.6	0	0	0	0	0.6	1.8	1.8	1.8	1.8	1.8	1.1
113 Preston City	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4
114 Pristine Springs	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
115 Pristine Springs #3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
116 Quincy Chute	7.7	7.7	4	2.3	0	0	0	0	0.8	5.5	5.5	7.1	8.4	8.5	3.7
117 Reynolds Irrigation	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
118 Rim View	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
119 Rock Creek #1	1.1	1.1	1.6	1.7	1.2	1.3	1.1	1.0	1.1	1.4	1.4	1.5	1.3	1.1	1.3
120 Rock Creek #2	1.8	1.8	1.8	1.9	1.9	1.9	0.6	0.4	1.6	1.9	1.9	1.9	1.9	1.6	1.6
121 Rocky Brook	0	0	0	0	0.2	0.6	0.6	0.4	0.5	0.5	0.5	0.2	0.1	0	0.3
122 Russel D. Smith	4	4	2.6	1.4	0	0	0	0	0.2	2.4	2.4	3.8	4.2	3.4	1.8
123 Sagebrush	0.4	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.4	0.4	0.3
124 Sahko	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
125 Salem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126 Schaffner	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.3
127 Sheep Creek	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.9	1.6	1.6	0.8	1.5	1.1	0.7
128 Shingle Creek	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
129 Shoshone	0.3	0.3	0.3	0.3	0.3	0	0	0	0.1	0.2	0.2	0.4	0.2	0.3	0.2
130 Shoshone II	0.6	0.6	0.6	0	0	0	0	0	0	0.3	0.3	0.5	0.6	0.6	0.3
131 Snake River Pottery	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0
132 Snedigar Ranch	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2
133 Solar Research	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0
134 South Dry Creek	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0.5	0.5	0.6	0.5	0.5	0.3
135 Spokane Upriver	3.4	3.4	3.4	4.7	6.7	13	14	13	14	13	13	11	12	8.4	9.7
136 Stauffer Dry Creek	0.9	0.9	1	0.8	0.4	0.3	0.3	0.4	0.4	0.4	0.9	2.7	2.1	0.9	0.9
137 Strawberry Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
138 Summer Falls	79	79	48	22	0	0	0	0	4.8	50	50	71	81	87	37
139 Sunshine Power #2	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
140 Thomas Burnside	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141 Tiber Dam Liberty Montana	7	7	5.4	2.5	0.9	0	0	0	0.1	2.6	2.6	6	6.7	7.4	3.2
142 Tieton (Yakima)	7.8	7.8	7.8	7.8	0	0	0	0	0	0	7.8	7.8	7.8	7.8	4.3
143 Trout Co.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
144 Tunnel #1	4.3	4.3	2.6	0.5	0	0	0	0	2.4	5.1	5.1	5.8	5.8	5.9	2.7
145 Twin Falls	5	5	0	1.2	9.6	7.9	8.3	8.3	8.3	8.3	8.3	8.3	8.3	19	7.7
146 Walla Walla	1.5	1.5	1.4	1.3	1.2	1.3	1.2	1.5	1.8	1.8	1.8	1.5	1.5	1.8	1.5
147 Water Street / Santiam	0	0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
148 Weeks Falls	0.8	0.8	0	0.2	1.7	1.8	1.2	0.6	1.2	2.6	2.6	2.4	4.4	3.5	1.7
149 White Water Ranch	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
150 Wilson Lake Hydro	7.1	7.1	5.3	2.0	0.2	0	0	0	0	2.3	2.3	6.1	6.8	7.6	3.1
151 Wisconsin Creek	0	0	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0.1
152 Woods Creek	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
153 Total NUG: Hydro	317	315	236	158	118	110	101	110	142	260	273	397	417	412	233
-NUG: Small Thermal & Misc.-															
154 Covanta Marion Solid Waste	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
155 Methane Energy Agricultural D.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
156 Montana One	9.6	9.8	9	9.1	9.3	10	11	10	9.2	9.2	9	11	9.1	8.6	9.6
157 Pocatello Waste	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
158 Spokane MSW	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
159 Treasure Valley	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
160 West Boise Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161 Total NUG: Small Thermal & Misc.	39	39	38	38	39	39	40	40	38	38	38	40	38	38	39
-NUG: Co-Generation-															
162 Billings Generation	18	18	17	11	17	19	19	19	17	11	11	20	17	16	17
163 Biomass One	15	15	14	15	14	15	15	13	15	14	14	15	14	15	15
164 Boise Cascade Medford	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165 Champion	3.3	3.3	3.3	3.3	3.3	3.3	3	3	3	3	3	3	3	3	3.1
166 Cogen Co	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
167 DR Johnson - Co-Gen II	6.0	6.0	5.8	6.0	5.8	6.0	6.0	5.4	6.0	7.2	0	6.0	5.8	6.0	5.7
168 Everett Cogen Project (Kimberly Clark)	38	38	38	36	36	34	31	34	19	36	36	38	33	38	34
169 Evergreen Biopower Cogen (Freres)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
170 Glenns Ferry Cogen Facility (Magic West)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
171 March Point #1	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
172 March Point #2	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
173 Metro Westpoint	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
174 Pottlatch Contract Renewal	50	50	37	42	53	51	53	51	50	44	44	46	46	47	48
175 Rough & Ready Lumber	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
176 Rupert Cogen Facility (Magic Valley)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
177 Simplot Pocatello	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
178 Stimson Lumber (formerly Haley West)	4.4	4.4	4.3	4.0	4.5	4.1	4.2	4.4	4.5	4.3	4.3	4.1	4	4	4.2
179 Sumas Compression Station	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
180 Tamarack	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
181 TESCO Nampa ID	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
182 TESCO Twin Falls ID	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
183 Vaagen Bros.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
184 Warm Springs	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
185 Total NUG: Co-Generation	314	315	299	297	314	312	312	310	295	299	292	311	302	308	306
-NUG: Renewables-															

Table A-24: Regional NUG Resources By Project And Project Type
PNW Loads and Resource Study
2018 - 2019 Operating Year
[61] 2009 White Book - 30 Minute Wind (Final)

Continued

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
186 Ashland Solar Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
187 Bettencourt Dairy (Cargill)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
188 Big Sky Dairy	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
189 Chinook Wind	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
190 DeRuyter & Son's Dairy	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
191 Dry Creek Landfill (NUG Renewable)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
192 Emmett Biomass Project	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
193 Finley Buttes BioEnergy	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
194 Fourmile Hill Geothermal	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
195 Healow #2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
196 Hidden Hollow Landfill	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
197 Josef Staufer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
198 Lewandowski Farms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199 Livingston	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200 Pine Products Corp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201 Portland Waste Water	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
202 Puyallup Energy Recovery (PERC)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
203 Qualco Dairy Digester	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
204 Raft River Geothermal Phase 1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
205 VanderHaak Dairy	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
206 White Bluffs Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
207 Wild Horse Solar	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
208 Windmill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209 Total NUG: Renewables	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
<i>-Total Non-Utility Generating Resources-</i>															
210 Federal Entities	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
211 Public Entities	204	202	150	94	55	54	50	54	49	146	146	235	251	262	134
212 Investor-Owned Entities	469	470	428	403	427	418	413	415	437	463	461	517	509	499	450
213 Other Entities	19	19	19	19	11	11	11	11	11	11	19	19	19	19	15
214 Total Non-Utility Generation	745	744	649	568	545	535	527	533	549	672	678	823	832	833	652

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Table A-26
Dedicated Resources
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-26: Dedicated Resources
PNW Loads and Resource Study
2009 - 2010 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	2609	2059	1520	1965	2018	2697	2475	2066	1802	1602	1538	2296	2920	2301	2165
2 Total Generating Public Entities	2609	2059	1520	1965	2018	2697	2475	2066	1802	1602	1538	2296	2920	2301	2165
<i>-Non-Generating Public Entities-</i>															
3 Non-Generating Public Entities	86	92	72	90	109	112	108	103	106	96	93	91	104	94	98
4 Total Non-Generating Public Entities	86	92	72	90	109	112	108	103	106	96	93	91	104	94	98
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	7725	7345	7195	7385	8101	8445	7736	7585	7554	7559	6975	7577	8355	7892	7720
6 Total Investor-owned Entities	7725	7345	7195	7385	8101	8445	7736	7585	7554	7559	6975	7577	8355	7892	7720
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	2609	2059	1520	1965	2018	2697	2475	2066	1802	1602	1538	2296	2920	2301	2165
8 Small & Non Generating Entities	86	92	72	90	109	112	108	103	106	96	93	91	104	94	98
9 Investor-Owned Entities	7725	7345	7195	7385	8101	8445	7736	7585	7554	7559	6975	7577	8355	7892	7720
10 Regional Total Dedicated Resources	10420	9495	8787	9439	10228	11254	10320	9754	9462	9256	8606	9964	11379	10287	9982

Table A-26: Dedicated Resources
PNW Loads and Resource Study
2010 - 2011 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	2572	1999	1492	1929	2036	2712	2476	2066	1803	1604	1541	2299	2922	2276	2157
2 Total Generating Public Entities	2572	1999	1492	1929	2036	2712	2476	2066	1803	1604	1541	2299	2922	2276	2157
<i>-Non-Generating Public Entities-</i>															
3 Non-Generating Public Entities	93	98	76	94	112	115	111	105	108	98	95	94	108	97	101
4 Total Non-Generating Public Entities	93	98	76	94	112	115	111	105	108	98	95	94	108	97	101
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	7728	7345	7302	7478	7930	8278	7656	7504	7663	7731	7385	7715	8394	7838	7739
6 Total Investor-owned Entities	7728	7345	7302	7478	7930	8278	7656	7504	7663	7731	7385	7715	8394	7838	7739
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	2572	1999	1492	1929	2036	2712	2476	2066	1803	1604	1541	2299	2922	2276	2157
8 Small & Non Generating Entities	93	98	76	94	112	115	111	105	108	98	95	94	108	97	101
9 Investor-Owned Entities	7728	7345	7302	7478	7930	8278	7656	7504	7663	7731	7385	7715	8394	7838	7739
10 Regional Total Dedicated Resources	10393	9442	8870	9501	10077	11105	10243	9676	9575	9433	9021	10108	11424	10211	9997

Table A-26: Dedicated Resources
PNW Loads and Resource Study
2011 - 2012 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	2535	2001	1471	2008	2319	2983	2759	2320	2041	2004	1952	2247	3198	2591	2349
2 Total Generating Public Entities	2535	2001	1471	2008	2319	2983	2759	2320	2041	2004	1952	2247	3198	2591	2349
<i>-Non-Generating Public Entities-</i>															
3 Non-Generating Public Entities	96	101	78	96	112	116	113	107	110	93	91	92	107	95	101
4 Total Non-Generating Public Entities	96	101	78	96	112	116	113	107	110	93	91	92	107	95	101
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	7599	7360	7316	7359	7595	7948	7305	7189	7408	7818	7110	6826	7949	7402	7436
6 Total Investor-owned Entities	7599	7360	7316	7359	7595	7948	7305	7189	7408	7818	7110	6826	7949	7402	7436
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	2535	2001	1471	2008	2319	2983	2759	2320	2041	2004	1952	2247	3198	2591	2349
8 Small & Non Generating Entities	96	101	78	96	112	116	113	107	110	93	91	92	107	95	101
9 Investor-Owned Entities	7599	7360	7316	7359	7595	7948	7305	7189	7408	7818	7110	6826	7949	7402	7436
10 Regional Total Dedicated Resources	10230	9462	8865	9463	10025	11048	10177	9616	9558	9915	9152	9165	11254	10087	9887

Table A-26: Dedicated Resources
PNW Loads and Resource Study
2012 - 2013 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	2863	2283	1722	2160	2329	2993	2770	2329	2049	2009	1958	2254	3205	2593	2414
2 Total Generating Public Entities	2863	2283	1722	2160	2329	2993	2770	2329	2049	2009	1958	2254	3205	2593	2414
<i>-Non-Generating Public Entities-</i>															
3 Non-Generating Public Entities	95	100	80	96	112	116	113	107	110	93	91	92	107	95	102
4 Total Non-Generating Public Entities	95	100	80	96	112	116	113	107	110	93	91	92	107	95	102
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	7140	6964	6980	7108	7494	7854	7220	7116	7275	7764	6980	7166	7818	7455	7326
6 Total Investor-owned Entities	7140	6964	6980	7108	7494	7854	7220	7116	7275	7764	6980	7166	7818	7455	7326
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	2863	2283	1722	2160	2329	2993	2770	2329	2049	2009	1958	2254	3205	2593	2414
8 Small & Non Generating Entities	95	100	80	96	112	116	113	107	110	93	91	92	107	95	102
9 Investor-Owned Entities	7140	6964	6980	7108	7494	7854	7220	7116	7275	7764	6980	7166	7818	7455	7326
10 Regional Total Dedicated Resources	10098	9347	8781	9364	9936	10963	10103	9552	9434	9866	9029	9512	11130	10143	9842

Table A-26: Dedicated Resources
 PNW Loads and Resource Study
 2013 - 2014 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	2866	2286	1724	2162	2331	3006	2773	2332	2052	1987	1961	2257	3208	2596	2417
2 Total Generating Public Entities	2866	2286	1724	2162	2331	3006	2773	2332	2052	1987	1961	2257	3208	2596	2417
<i>-Non-Generating Public Entities-</i>															
3 Non-Generating Public Entities	95	100	80	96	112	117	113	108	110	92	91	92	107	95	102
4 Total Non-Generating Public Entities	95	100	80	96	112	117	113	108	110	92	91	92	107	95	102
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	7305	6964	6985	7109	7496	7863	7220	7117	7159	7692	7083	6816	7959	7377	7301
6 Total Investor-owned Entities	7305	6964	6985	7109	7496	7863	7220	7117	7159	7692	7083	6816	7959	7377	7301
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	2866	2286	1724	2162	2331	3006	2773	2332	2052	1987	1961	2257	3208	2596	2417
8 Small & Non Generating Entities	95	100	80	96	112	117	113	108	110	92	91	92	107	95	102
9 Investor-Owned Entities	7305	6964	6985	7109	7496	7863	7220	7117	7159	7692	7083	6816	7959	7377	7301
10 Regional Total Dedicated Resources	10266	9351	8789	9368	9939	10986	10107	9556	9320	9771	9135	9165	11273	10068	9820

Table A-26: Dedicated Resources
PNW Loads and Resource Study
2014 - 2015 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	2869	2288	1727	2166	2334	3049	2777	2335	2056	1900	1964	2260	3210	2598	2420
2 Total Generating Public Entities	2869	2288	1727	2166	2334	3049	2777	2335	2056	1900	1964	2260	3210	2598	2420
<i>-Non-Generating Public Entities-</i>															
3 Non-Generating Public Entities	95	100	80	96	112	118	113	108	110	89	91	92	107	95	101
4 Total Non-Generating Public Entities	95	100	80	96	112	118	113	108	110	89	91	92	107	95	101
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	7154	6958	6975	7102	7489	7884	7214	7110	7160	7685	7466	7204	7866	7393	7336
6 Total Investor-owned Entities	7154	6958	6975	7102	7489	7884	7214	7110	7160	7685	7466	7204	7866	7393	7336
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	2869	2288	1727	2166	2334	3049	2777	2335	2056	1900	1964	2260	3210	2598	2420
8 Small & Non Generating Entities	95	100	80	96	112	118	113	108	110	89	91	92	107	95	101
9 Investor-Owned Entities	7154	6958	6975	7102	7489	7884	7214	7110	7160	7685	7466	7204	7866	7393	7336
10 Regional Total Dedicated Resources	10118	9346	8781	9364	9935	11051	10104	9552	9325	9673	9521	9556	11183	10087	9857

Table A-26: Dedicated Resources
PNW Loads and Resource Study
2015 - 2016 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	2872	2291	1730	2170	2338	3015	2780	2340	2042	1817	1791	2376	3213	2602	2417
2 Total Generating Public Entities	2872	2291	1730	2170	2338	3015	2780	2340	2042	1817	1791	2376	3213	2602	2417
<i>-Non-Generating Public Entities-</i>															
3 Non-Generating Public Entities	95	100	80	96	112	117	113	107	110	92	91	92	107	95	102
4 Total Non-Generating Public Entities	95	100	80	96	112	117	113	107	110	92	91	92	107	95	102
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	7130	6959	6975	7101	7488	7856	7215	7109	7299	7163	6224	7209	7891	7444	7278
6 Total Investor-owned Entities	7130	6959	6975	7101	7488	7856	7215	7109	7299	7163	6224	7209	7891	7444	7278
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	2872	2291	1730	2170	2338	3015	2780	2340	2042	1817	1791	2376	3213	2602	2417
8 Small & Non Generating Entities	95	100	80	96	112	117	113	107	110	92	91	92	107	95	102
9 Investor-Owned Entities	7130	6959	6975	7101	7488	7856	7215	7109	7299	7163	6224	7209	7891	7444	7278
10 Regional Total Dedicated Resources	10097	9350	8784	9366	9939	10987	10108	9557	9451	9072	8106	9678	11211	10141	9797

Table A-26: Dedicated Resources
PNW Loads and Resource Study
2016 - 2017 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	2859	2279	1718	2152	2321	3034	2761	2321	2024	1715	1779	2364	3201	2590	2402
2 Total Generating Public Entities	2859	2279	1718	2152	2321	3034	2761	2321	2024	1715	1779	2364	3201	2590	2402
<i>-Non-Generating Public Entities-</i>															
3 Non-Generating Public Entities	95	101	80	96	112	118	113	108	110	89	91	92	107	95	102
4 Total Non-Generating Public Entities	95	101	80	96	112	118	113	108	110	89	91	92	107	95	102
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	7296	6956	6975	7102	7488	7884	7215	7111	7308	7328	6942	7225	7950	7383	7326
6 Total Investor-owned Entities	7296	6956	6975	7102	7488	7884	7215	7111	7308	7328	6942	7225	7950	7383	7326
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	2859	2279	1718	2152	2321	3034	2761	2321	2024	1715	1779	2364	3201	2590	2402
8 Small & Non Generating Entities	95	101	80	96	112	118	113	108	110	89	91	92	107	95	102
9 Investor-Owned Entities	7296	6956	6975	7102	7488	7884	7215	7111	7308	7328	6942	7225	7950	7383	7326
10 Regional Total Dedicated Resources	10251	9336	8772	9349	9921	11037	10089	9540	9442	9132	8812	9680	11258	10068	9829

Table A-26: Dedicated Resources
PNW Loads and Resource Study
2017 - 2018 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	2853	2273	1711	2142	2310	2985	2751	2312	2031	1974	1948	2245	3195	2583	2400
2 Total Generating Public Entities	2853	2273	1711	2142	2310	2985	2751	2312	2031	1974	1948	2245	3195	2583	2400
<i>-Non-Generating Public Entities-</i>															
3 Non-Generating Public Entities	95	101	80	96	112	117	114	108	110	92	91	92	107	95	102
4 Total Non-Generating Public Entities	95	101	80	96	112	117	114	108	110	92	91	92	107	95	102
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	7157	6956	6976	7102	7489	7857	7215	7111	7340	7625	6898	6881	7956	7397	7303
6 Total Investor-owned Entities	7157	6956	6976	7102	7489	7857	7215	7111	7340	7625	6898	6881	7956	7397	7303
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	2853	2273	1711	2142	2310	2985	2751	2312	2031	1974	1948	2245	3195	2583	2400
8 Small & Non Generating Entities	95	101	80	96	112	117	114	108	110	92	91	92	107	95	102
9 Investor-Owned Entities	7157	6956	6976	7102	7489	7857	7215	7111	7340	7625	6898	6881	7956	7397	7303
10 Regional Total Dedicated Resources	10105	9330	8767	9340	9912	10958	10079	9531	9481	9692	8937	9218	11257	10076	9805

Table A-26: Dedicated Resources
PNW Loads and Resource Study
2018 - 2019 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	2854	2274	1712	2143	2311	3024	2661	2222	1941	1794	1916	2212	3120	2507	2358
2 Total Generating Public Entities	2854	2274	1712	2143	2311	3024	2661	2222	1941	1794	1916	2212	3120	2507	2358
<i>-Non-Generating Public Entities-</i>															
3 Non-Generating Public Entities	95	101	80	96	112	119	99	93	95	75	85	86	94	84	95
4 Total Non-Generating Public Entities	95	101	80	96	112	119	99	93	95	75	85	86	94	84	95
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	7133	6957	6977	7102	7489	7886	6680	6577	6737	7129	6643	6830	7381	6978	7050
6 Total Investor-owned Entities	7133	6957	6977	7102	7489	7886	6680	6577	6737	7129	6643	6830	7381	6978	7050
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	2854	2274	1712	2143	2311	3024	2661	2222	1941	1794	1916	2212	3120	2507	2358
8 Small & Non Generating Entities	95	101	80	96	112	119	99	93	95	75	85	86	94	84	95
9 Investor-Owned Entities	7133	6957	6977	7102	7489	7886	6680	6577	6737	7129	6643	6830	7381	6978	7050
10 Regional Total Dedicated Resources	10082	9331	8770	9340	9913	11029	9440	8892	8773	8998	8644	9129	10595	9568	9502

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Table A-27
Other Dedicated Resources
Monthly OY 2010 – 2019
Average Energy in Megawatts

Power Services

Reports Powered by:



Loads and Resources Information System

Table A-27: Other Dedicated Resources
 PNW Loads and Resource Study
 2009 - 2010 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	3517	3354	3347	3428	4297	4500	4596	4357	4048	3395	3370	3791	3515	3553	3852
2 Total Generating Public Entities	3517	3354	3347	3428	4297	4500	4596	4357	4048	3395	3370	3791	3515	3553	3852
<i>-Non-Generating Public Entities-</i>															
3 Small & Non Generating Public Entities	3787	3664	3388	3440	3976	4329	4397	4152	3658	3445	3480	3725	3740	3918	3825
4 Total Non-Generating Public Entities	3787	3664	3388	3440	3976	4329	4397	4152	3658	3445	3480	3725	3740	3918	3825
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	4628	4637	4363	4595	5084	5355	5460	5402	5126	4967	4863	3185	4467	4905	4787
6 Total Investor-owned Entities	4628	4637	4363	4595	5084	5355	5460	5402	5126	4967	4863	3185	4467	4905	4787
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	3517	3354	3347	3428	4297	4500	4596	4357	4048	3395	3370	3791	3515	3553	3852
8 Non Generating Entities	3787	3664	3388	3440	3976	4329	4397	4152	3658	3445	3480	3725	3740	3918	3825
9 Investor-Owned Entities	4628	4637	4363	4595	5084	5355	5460	5402	5126	4967	4863	3185	4467	4905	4787
10 Regional Total Dedicated Resources	11932	11656	11099	11463	13357	14184	14453	13912	12832	11807	11713	10701	11721	12377	12464

Table A-27: Other Dedicated Resources
PNW Loads and Resource Study
2010 - 2011 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	3701	3520	3478	3616	4434	4618	4631	4393	4074	3355	3255	3675	3407	3600	3902
2 Total Generating Public Entities	3701	3520	3478	3616	4434	4618	4631	4393	4074	3355	3255	3675	3407	3600	3902
<i>-Non-Generating Public Entities-</i>															
3 Small & Non Generating Public Entities	3834	3765	3455	3502	4039	4386	4459	4207	3717	3464	3453	3705	3720	3987	3869
4 Total Non-Generating Public Entities	3834	3765	3455	3502	4039	4386	4459	4207	3717	3464	3453	3705	3720	3987	3869
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	4911	4920	4703	4860	5352	5677	5325	5311	4950	4896	4724	3947	4557	4996	4949
6 Total Investor-owned Entities	4911	4920	4703	4860	5352	5677	5325	5311	4950	4896	4724	3947	4557	4996	4949
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	3701	3520	3478	3616	4434	4618	4631	4393	4074	3355	3255	3675	3407	3600	3902
8 Non Generating Entities	3834	3765	3455	3502	4039	4386	4459	4207	3717	3464	3453	3705	3720	3987	3869
9 Investor-Owned Entities	4911	4920	4703	4860	5352	5677	5325	5311	4950	4896	4724	3947	4557	4996	4949
10 Regional Total Dedicated Resources	12446	12205	11636	11979	13825	14681	14415	13912	12741	11715	11432	11328	11684	12584	12720

Table A-27: Other Dedicated Resources
 PNW Loads and Resource Study
 2011 - 2012 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	3743	3547	3513	624	751	723	762	664	630	535	469	629	644	640	1144
2 Total Generating Public Entities	3743	3547	3513	624	751	723	762	664	630	535	469	629	644	640	1144
<i>-Non-Generating Public Entities-</i>															
3 Small & Non Generating Public Entities	3912	3812	3507	103	104	107	104	103	113	119	120	132	154	127	712
4 Total Non-Generating Public Entities	3912	3812	3507	103	104	107	104	103	113	119	120	132	154	127	712
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	4843	4853	4656	4744	5263	5508	5386	5341	4879	4242	4063	3299	4778	4815	4804
6 Total Investor-owned Entities	4843	4853	4656	4744	5263	5508	5386	5341	4879	4242	4063	3299	4778	4815	4804
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	3743	3547	3513	624	751	723	762	664	630	535	469	629	644	640	1144
8 Non Generating Entities	3912	3812	3507	103	104	107	104	103	113	119	120	132	154	127	712
9 Investor-Owned Entities	4843	4853	4656	4744	5263	5508	5386	5341	4879	4242	4063	3299	4778	4815	4804
10 Regional Total Dedicated Resources	12497	12212	11676	5471	6119	6339	6252	6108	5622	4896	4652	4060	5576	5581	6660

Table A-27: Other Dedicated Resources
PNW Loads and Resource Study
2012 - 2013 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	637	611	502	624	750	723	762	664	630	534	469	629	645	639	641
2 Total Generating Public Entities	637	611	502	624	750	723	762	664	630	534	469	629	645	639	641
<i>-Non-Generating Public Entities-</i>															
3 Small & Non Generating Public Entities	110	123	104	103	104	107	109	108	117	123	123	137	156	129	118
4 Total Non-Generating Public Entities	110	123	104	103	104	107	109	108	117	123	123	137	156	129	118
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	4688	4819	4567	4729	5301	5458	5270	5286	5039	4341	4100	3552	4424	4711	4773
6 Total Investor-owned Entities	4688	4819	4567	4729	5301	5458	5270	5286	5039	4341	4100	3552	4424	4711	4773
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	637	611	502	624	750	723	762	664	630	534	469	629	645	639	641
8 Non Generating Entities	110	123	104	103	104	107	109	108	117	123	123	137	156	129	118
9 Investor-Owned Entities	4688	4819	4567	4729	5301	5458	5270	5286	5039	4341	4100	3552	4424	4711	4773
10 Regional Total Dedicated Resources	5434	5553	5173	5456	6156	6289	6140	6057	5786	4998	4692	4317	5224	5479	5533

Table A-27: Other Dedicated Resources
 PNW Loads and Resource Study
 2013 - 2014 Operating Year
 1937 Water Year
 [61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	637	611	502	624	750	729	762	664	630	522	469	629	645	639	641
2 Total Generating Public Entities	637	611	502	624	750	729	762	664	630	522	469	629	645	639	641
<i>-Non-Generating Public Entities-</i>															
3 Small & Non Generating Public Entities	112	126	108	105	107	112	109	108	117	123	123	137	156	129	119
4 Total Non-Generating Public Entities	112	126	108	105	107	112	109	108	117	123	123	137	156	129	119
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	4659	4667	4514	4599	5140	5334	5152	5165	4800	4717	4103	3444	4582	4753	4710
6 Total Investor-owned Entities	4659	4667	4514	4599	5140	5334	5152	5165	4800	4717	4103	3444	4582	4753	4710
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	637	611	502	624	750	729	762	664	630	522	469	629	645	639	641
8 Non Generating Entities	112	126	108	105	107	112	109	108	117	123	123	137	156	129	119
9 Investor-Owned Entities	4659	4667	4514	4599	5140	5334	5152	5165	4800	4717	4103	3444	4582	4753	4710
10 Regional Total Dedicated Resources	5408	5404	5125	5328	5998	6175	6022	5937	5547	5362	4695	4210	5383	5521	5470

Table A-27: Other Dedicated Resources
PNW Loads and Resource Study
2014 - 2015 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	637	612	502	624	753	754	761	662	628	477	467	628	643	638	641
2 Total Generating Public Entities	637	612	502	624	753	754	761	662	628	477	467	628	643	638	641
<i>-Non-Generating Public Entities-</i>															
3 Small & Non Generating Public Entities	112	125	109	105	107	112	112	112	121	127	127	141	160	133	121
4 Total Non-Generating Public Entities	112	125	109	105	107	112	112	112	121	127	127	141	160	133	121
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	4656	4663	4531	4624	5199	5342	5226	5235	4795	4140	3532	3572	4425	4677	4674
6 Total Investor-owned Entities	4656	4663	4531	4624	5199	5342	5226	5235	4795	4140	3532	3572	4425	4677	4674
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	637	612	502	624	753	754	761	662	628	477	467	628	643	638	641
8 Non Generating Entities	112	125	109	105	107	112	112	112	121	127	127	141	160	133	121
9 Investor-Owned Entities	4656	4663	4531	4624	5199	5342	5226	5235	4795	4140	3532	3572	4425	4677	4674
10 Regional Total Dedicated Resources	5404	5400	5142	5353	6059	6207	6099	6009	5544	4744	4126	4341	5227	5447	5437

Table A-27: Other Dedicated Resources
PNW Loads and Resource Study
2015 - 2016 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	636	611	500	622	750	729	761	662	628	521	467	628	643	638	640
2 Total Generating Public Entities	636	611	500	622	750	729	761	662	628	521	467	628	643	638	640
<i>-Non-Generating Public Entities-</i>															
3 Small & Non Generating Public Entities	116	129	112	109	111	116	112	112	121	127	127	141	160	133	123
4 Total Non-Generating Public Entities	116	129	112	109	111	116	112	112	121	127	127	141	160	133	123
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	4611	4742	4541	4677	5166	5344	5148	5162	5002	4390	4149	3446	4423	4739	4715
6 Total Investor-owned Entities	4611	4742	4541	4677	5166	5344	5148	5162	5002	4390	4149	3446	4423	4739	4715
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	636	611	500	622	750	729	761	662	628	521	467	628	643	638	640
8 Non Generating Entities	116	129	112	109	111	116	112	112	121	127	127	141	160	133	123
9 Investor-Owned Entities	4611	4742	4541	4677	5166	5344	5148	5162	5002	4390	4149	3446	4423	4739	4715
10 Regional Total Dedicated Resources	5363	5482	5153	5408	6027	6188	6022	5936	5751	5038	4744	4215	5225	5511	5479

Table A-27: Other Dedicated Resources
PNW Loads and Resource Study
2016 - 2017 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	636	611	500	622	750	750	758	658	625	473	464	624	639	635	638
2 Total Generating Public Entities	636	611	500	622	750	750	758	658	625	473	464	624	639	635	638
<i>-Non-Generating Public Entities-</i>															
3 Small & Non Generating Public Entities	116	129	112	109	111	116	112	112	121	127	127	141	160	133	123
4 Total Non-Generating Public Entities	116	129	112	109	111	116	112	112	121	127	127	141	160	133	123
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	4767	4775	4605	4691	5140	5350	5156	5168	4890	4767	3873	3734	4722	4838	4780
6 Total Investor-owned Entities	4767	4775	4605	4691	5140	5350	5156	5168	4890	4767	3873	3734	4722	4838	4780
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	636	611	500	622	750	750	758	658	625	473	464	624	639	635	638
8 Non Generating Entities	116	129	112	109	111	116	112	112	121	127	127	141	160	133	123
9 Investor-Owned Entities	4767	4775	4605	4691	5140	5350	5156	5168	4890	4767	3873	3734	4722	4838	4780
10 Regional Total Dedicated Resources	5519	5515	5218	5422	6001	6216	6026	5939	5635	5368	4465	4499	5521	5606	5541

Table A-27: Other Dedicated Resources
PNW Loads and Resource Study
2017 - 2018 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	655	630	519	641	769	745	777	678	647	540	486	646	661	657	658
2 Total Generating Public Entities	655	630	519	641	769	745	777	678	647	540	486	646	661	657	658
<i>-Non-Generating Public Entities-</i>															
3 Small & Non Generating Public Entities	116	129	112	109	111	116	112	112	121	127	127	141	160	133	123
4 Total Non-Generating Public Entities	116	129	112	109	111	116	112	112	121	127	127	141	160	133	123
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	4771	4779	4664	4752	5136	5305	5117	5127	4817	3880	3279	3334	4797	4719	4675
6 Total Investor-owned Entities	4771	4779	4664	4752	5136	5305	5117	5127	4817	3880	3279	3334	4797	4719	4675
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	655	630	519	641	769	745	777	678	647	540	486	646	661	657	658
8 Non Generating Entities	116	129	112	109	111	116	112	112	121	127	127	141	160	133	123
9 Investor-Owned Entities	4771	4779	4664	4752	5136	5305	5117	5127	4817	3880	3279	3334	4797	4719	4675
10 Regional Total Dedicated Resources	5543	5538	5296	5503	6015	6166	6006	5917	5585	4547	3892	4121	5618	5509	5456

Table A-27: Other Dedicated Resources
PNW Loads and Resource Study
2018 - 2019 Operating Year
1937 Water Year
[61] 2009 White Book - 30 Minute Wind (Final)

7/22/2009

Energy (aMW)	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
<i>-Generating Public Entities-</i>															
1 Generating Public Entities	655	630	519	641	769	766	775	675	645	493	485	645	660	655	657
2 Total Generating Public Entities	655	630	519	641	769	766	775	675	645	493	485	645	660	655	657
<i>-Non-Generating Public Entities-</i>															
3 Small & Non Generating Public Entities	116	129	112	109	111	116	112	112	121	127	127	141	160	133	123
4 Total Non-Generating Public Entities	116	129	112	109	111	116	112	112	121	127	127	141	160	133	123
<i>-Investor-Owned Entities-</i>															
5 Investor-Owned Entities	4651	4783	4628	4766	5139	5309	5120	5131	5017	4407	4167	3532	4438	4756	4735
6 Total Investor-owned Entities	4651	4783	4628	4766	5139	5309	5120	5131	5017	4407	4167	3532	4438	4756	4735
<i>-Total Dedicated Resources-</i>															
7 Generating Public Entities	655	630	519	641	769	766	775	675	645	493	485	645	660	655	657
8 Non Generating Entities	116	129	112	109	111	116	112	112	121	127	127	141	160	133	123
9 Investor-Owned Entities	4651	4783	4628	4766	5139	5309	5120	5131	5017	4407	4167	3532	4438	4756	4735
10 Regional Total Dedicated Resources	5423	5542	5260	5516	6019	6190	6007	5918	5782	5027	4779	4318	5258	5544	5515

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