

Exhibit 13: OY 2008-09 Monthly 50-WY Energy

*Federal Surplus/Deficit by Water Year
PNW Loads and Resource Study
2008 - 2009 Operating Year
2002 White Book*

9/9/2003

Average Energy in Megawatts	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	2922	853	-308	297	-93	-657	-115	-2175	-745	-790	-1047	-738	1138	1724	-58
1930 Federal Surplus/Deficit	1550	631	-420	470	70	-676	-2203	-1202	-692	-417	-633	-793	1043	1953	-157
1931 Federal Surplus/Deficit	2021	895	-297	414	35	-629	-2153	-2150	-915	114	-1269	-277	558	1053	-290
1932 Federal Surplus/Deficit	1888	426	-271	326	-80	-723	-2125	-2303	489	3023	4843	4692	3887	2880	988
1933 Federal Surplus/Deficit	3196	2252	-76	484	-327	210	2389	1590	-727	477	1390	3035	6172	5259	1806
1934 Federal Surplus/Deficit	2731	3014	525	1607	1404	4551	5552	3912	2561	5726	5098	4144	381	2498	2952
1935 Federal Surplus/Deficit	1295	-72	-460	225	-367	-245	1845	2250	-1228	267	2090	2305	2738	2864	976
1936 Federal Surplus/Deficit	2730	912	-288	422	-56	-666	-1447	-2136	-514	-526	1789	5837	2389	1825	652
1937 Federal Surplus/Deficit	2464	664	-386	466	-6.3	-687	-1939	-1961	-743	-565	-774	-326	521	1305	-239
1938 Federal Surplus/Deficit	2068	286	-394	629	-136	-597	2648	-449	1533	2381	2579	4890	3121	2446	1446
1939 Federal Surplus/Deficit	1821	491	15	544	-62	-698	282	-1848	-170	310	1152	3548	1049	1932	540
1940 Federal Surplus/Deficit	2650	785	-378	658	-113	-482	-373	-1055	1761	1230	1914	2209	1793	1311	718
1941 Federal Surplus/Deficit	1724	359	-429	444	-233	-84	179	-2108	-648	-922	-867	302	1363	667	-33
1942 Federal Surplus/Deficit	1495	499	-54	385	-354	1490	2801	-1480	-1237	-216	604	1943	4326	3413	1035
1943 Federal Surplus/Deficit	3174	2200	-88	444	-230	-271	2019	1256	2192	5370	4735	4827	4121	3520	2127
1944 Federal Surplus/Deficit	2958	2121	-93	549	-31	-721	258	-2101	-1166	-738	-1211	-756	284	500	-143
1945 Federal Surplus/Deficit	1585	-11	-313	254	-62	-715	-2083	-1684	-879	-667	-947	2203	3372	1874	162
1946 Federal Surplus/Deficit	1758	1264	-503	560	-52	-645	695	661	2284	2841	3828	5181	3525	3346	1658
1947 Federal Surplus/Deficit	3265	1899	137	429	-81	2311	3032	2185	2558	1232	2706	4317	3209	2979	2136
1948 Federal Surplus/Deficit	3270	1309	-33	2624	903	1224	2898	-267	1149	1462	3646	6320	6886	3792	2528
1949 Federal Surplus/Deficit	2860	3311	855	726	-161	-33	834	-431	3373	1520	4554	5201	3028	1203	1727
1950 Federal Surplus/Deficit	1551	24	-697	454	-240	-924	1095	2597	4130	3910	3748	4081	5974	3901	2082
1951 Federal Surplus/Deficit	2474	2757	295	1456	1399	3305	4413	4390	2793	3770	4285	5225	2391	3818	3011
1952 Federal Surplus/Deficit	2959	2862	597	2080	96	1630	2673	1105	1545	3991	4455	6223	3329	2214	2386
1953 Federal Surplus/Deficit	2976	1161	-158	417	29	-683	44	2226	-244	-643	1046	3754	5735	3979	1447
1954 Federal Surplus/Deficit	3103	1957	170	704	15	669	1703	2470	1138	3194	2521	4558	5232	4703	2229
1955 Federal Surplus/Deficit	4099	3069	2791	1300	526	809	-305	-1775	-1099	289	-103	1687	6549	5774	1661
1956 Federal Surplus/Deficit	2875	3240	62	1171	800	2973	4952	1627	3504	3971	5949	6271	6538	4153	3339
1957 Federal Surplus/Deficit	3233	2466	112	828	-192	837	1401	-1135	762	4539	2829	5816	6249	2400	1968
1958 Federal Surplus/Deficit	2116	719	-246	559	-61	-559	918	1145	1362	525	3431	5162	4711	1964	1529
1959 Federal Surplus/Deficit	2145	1002	-148	453	423	1596	4425	2818	1370	2703	1968	3448	5188	4511	2333
1960 Federal Surplus/Deficit	2975	2289	2570	3256	1890	2484	2677	-207	1187	5830	3797	2986	3526	3006	2569
1961 Federal Surplus/Deficit	3271	870	-75	606	149	-64	1457	1849	2049	2743	2796	3715	6118	2548	1933
1962 Federal Surplus/Deficit	2330	1373	-437	521	-81	-810	1335	-1165	-703	4133	4496	3141	2658	3232	1155
1963 Federal Surplus/Deficit	2790	1794	-201	1025	567	1574	1664	395	434	379	721	3951	3287	2950	1541
1964 Federal Surplus/Deficit	3499	2008	245	343	-24	-440	1202	-399	-747	1453	1592	2731	6210	5290	1557
1965 Federal Surplus/Deficit	3008	2701	849	1425	109	3179	5469	3994	3051	2471	4378	4990	4078	2504	2994
1966 Federal Surplus/Deficit	3072	2469	199	957	156	759	2317	-661	-447	3181	1441	3055	2118	3322	1405
1967 Federal Surplus/Deficit	3314	1621	-338	415	-82	-95	2732	3407	519	2115	940	1806	5764	4596	1893
1968 Federal Surplus/Deficit	3073	2373	304	771	44	596	2219	1471	1329	-954	821	1928	3910	4247	1623
1969 Federal Surplus/Deficit	3235	2512	1254	1545	943	1456	4278	2944	1801	4963	4524	6069	3782	3186	2906
1970 Federal Surplus/Deficit	3168	1221	-158	543	43	-277	1817	1398	-224	-479	1634	2982	4255	1323	1206
1971 Federal Surplus/Deficit	1972	871	-434	535	137	-405	3484	4972	2554	3203	3996	6423	5983	4478	2729
1972 Federal Surplus/Deficit	3191	3394	469	622	55	739	3287	4581	5148	5471	2468	6125	6428	4912	3302
1973 Federal Surplus/Deficit	3745	3089	924	791	-79	976	2672	-1817	-811	-1087	-966	148	1320	1659	681
1974 Federal Surplus/Deficit	1865	174	-528	157	-380	1778	5960	4933	3884	4759	5441	5540	6556	6152	3348
1975 Federal Surplus/Deficit	3254	3365	871	303	-58	-172	2090	965	2571	1550	1868	3878	4712	5175	2113
1976 Federal Surplus/Deficit	2074	1329	242	1201	1212	4073	4311	2818	1977	4701	3547	5628	2785	4717	2899
1977 Federal Surplus/Deficit	4664	4298	3422	948	-52	-538	286	-2191	-1492	-1232	-1496	4.9	-62	480	327
1978 Federal Surplus/Deficit	1900	-6.9	-554	-14	-267	-368	1405	-159	2440	1563	2368	3400	2446	3337	1215
-Ranked Averages-															
Top Ten Percent	2683	2453	229	966	397	2395	4816	3905	3676	4088	4504	5630	5198	4308	3199
Middle Eighty Percent	2701	1592	213	783	127	419	1676	529	847	1852	2277	3688	3828	3120	1620
Bottom Ten Percent	2383	1033	-301	440	-5.2	-674	-1230	-1918	-852	-479	-987	-578	709	1307	-177

Exhibit 14: OY 2009-10 Monthly 50-WY Energy

*Federal Surplus/Deficit by Water Year
PNW Loads and Resource Study
2009 - 2010 Operating Year
2002 White Book*

9/9/2003

Average Energy in Megawatts	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	2904	829	-334	271	-134	-704	-153	-2224	-793	-829	-1088	-237	1677	1688	-2.9
1930 Federal Surplus/Deficit	1528	608	-446	442	31	-722	-2245	-1248	-739	-455	-675	-293	1582	1918	-102
1931 Federal Surplus/Deficit	2001	872	-323	386	-4.6	-675	-2195	-2199	-963	78	-1311	224	1098	1018	-234
1932 Federal Surplus/Deficit	1868	402	-297	298	-120	-772	-2168	-2352	444	2990	4814	5202	4432	2846	1046
1933 Federal Surplus/Deficit	3177	2232	-101	458	-367	163	2358	1553	-772	444	1355	3543	6719	5228	1866
1934 Federal Surplus/Deficit	2713	2996	503	1584	1365	4513	5522	3877	2521	5696	5069	4655	917	2464	3013
1935 Federal Surplus/Deficit	1274	-95	-484	197	-407	-293	1812	2214	-1272	232	2057	2810	3280	2831	1035
1936 Federal Surplus/Deficit	2712	890	-313	395	-95	-712	-1486	-2184	-561	-563	1756	6347	2933	1791	709
1937 Federal Surplus/Deficit	2444	641	-412	439	-45	-733	-1981	-2009	-790	-602	-814	172	1057	1270	-183
1938 Federal Surplus/Deficit	2048	264	-420	601	-175	-643	2615	-491	1491	2347	2547	5400	3663	2412	1505
1939 Federal Surplus/Deficit	1801	468	-9.8	517	-102	-745	248	-1894	-216	275	1117	4055	1586	1897	597
1940 Federal Surplus/Deficit	2631	762	-404	632	-151	-529	-412	-1102	1720	1194	1883	2714	2331	1276	776
1941 Federal Surplus/Deficit	1704	336	-454	418	-271	-129	138	-2156	-696	-956	-902	806	1902	630	23
1942 Federal Surplus/Deficit	1474	476	-80	358	-393	1443	2771	-1526	-1285	-252	568	2448	4870	3381	1093
1943 Federal Surplus/Deficit	3156	2180	-113	418	-270	-318	1987	1213	2150	5338	4704	5338	4664	3486	2187
1944 Federal Surplus/Deficit	2939	2101	-119	523	-72	-768	219	-2150	-1215	-777	-1250	-254	821	463	-87
1945 Federal Surplus/Deficit	1564	-35	-339	226	-103	-762	-2127	-1733	-928	-706	-989	2710	3915	1840	218
1946 Federal Surplus/Deficit	1737	1242	-529	532	-91	-691	657	618	2244	2808	3797	5692	4070	3312	1717
1947 Federal Surplus/Deficit	3247	1878	113	403	-121	2264	3002	2146	2518	1199	2674	4826	3754	2945	2196
1948 Federal Surplus/Deficit	3251	1286	-58	2602	863	1180	2867	-312	1108	1428	3615	6831	7432	3761	2589
1949 Federal Surplus/Deficit	2842	3293	831	701	-201	-81	800	-477	3333	1486	4524	5710	3571	1167	1786
1950 Federal Surplus/Deficit	1530	-0.7	-724	426	-280	-970	1062	2557	4091	3877	3718	4591	6520	3869	2142
1951 Federal Surplus/Deficit	2454	2738	270	1433	1359	3263	4383	4354	2753	3737	4255	5736	2934	3786	3072
1952 Federal Surplus/Deficit	2941	2842	573	2058	57	1585	2642	1066	1501	3958	4424	6734	3873	2181	2446
1953 Federal Surplus/Deficit	2957	1138	-184	390	-11	-729	3.2	2188	-287	-677	1011	4263	6280	3946	1506
1954 Federal Surplus/Deficit	3085	1937	146	679	-25	622	1671	2433	1096	3160	2488	5069	5779	4671	2290
1955 Federal Surplus/Deficit	4082	3050	2772	1276	487	764	-344	-1823	-1147	254	-135	2192	7095	5743	1720
1956 Federal Surplus/Deficit	2856	3221	37	1147	760	2930	4923	1589	3463	3940	5920	6781	7085	4121	3400
1957 Federal Surplus/Deficit	3215	2447	88	803	-233	790	1367	-1181	720	4505	2798	6327	6795	2365	2027
1958 Federal Surplus/Deficit	2096	695	-271	532	-101	-607	884	1102	1322	490	3398	5671	5257	1928	1588
1959 Federal Surplus/Deficit	2124	980	-174	427	383	1551	4396	2783	1327	2670	1936	3959	5734	4478	2393
1960 Federal Surplus/Deficit	2957	2269	2551	3234	1851	2442	2648	-250	1144	5800	3767	3495	4070	2972	2630
1961 Federal Surplus/Deficit	3253	846	-99	580	110	-112	1424	1811	2009	2711	2763	4226	6664	2514	1993
1962 Federal Surplus/Deficit	2310	1351	-463	495	-122	-859	1301	-1209	-752	4099	4467	3650	3201	3199	1213
1963 Federal Surplus/Deficit	2771	1773	-226	1001	528	1529	1633	356	387	345	687	4458	3831	2917	1600
1964 Federal Surplus/Deficit	3480	1986	221	317	-65	-488	1168	-442	-794	1417	1558	3239	6756	5259	1616
1965 Federal Surplus/Deficit	2990	2681	826	1402	70	3133	5439	3958	3010	2437	4347	5501	4621	2470	3055
1966 Federal Surplus/Deficit	3054	2449	175	932	117	711	2285	-702	-494	3149	1409	3564	2660	3289	1464
1967 Federal Surplus/Deficit	3296	1598	-364	389	-123	-142	2701	3371	477	2083	906	2314	6311	4565	1953
1968 Federal Surplus/Deficit	3055	2353	280	746	5.1	549	2187	1433	1288	-992	787	2432	4456	4214	1683
1969 Federal Surplus/Deficit	3218	2492	1232	1522	904	1411	4249	2908	1759	4931	4494	6579	4328	3152	2968
1970 Federal Surplus/Deficit	3149	1198	-184	518	3.0	-325	1781	1359	-269	-514	1602	3490	4798	1288	1265
1971 Federal Surplus/Deficit	1952	847	-460	508	96	-453	3453	4937	2512	3170	3966	6934	6528	4446	2789
1972 Federal Surplus/Deficit	3174	3375	444	596	15	692	3255	4545	5109	5442	2437	6636	6974	4881	3363
1973 Federal Surplus/Deficit	3728	3071	900	766	-119	929	2640	-1865	-859	-1123	-1002	649	1860	1623	738
1974 Federal Surplus/Deficit	1845	150	-555	128	-420	1730	5930	4897	3844	4728	5412	6051	7102	6121	3408
1975 Federal Surplus/Deficit	3237	3347	848	276	-.99	-220	2058	926	2529	1516	1835	4387	5256	5143	2173
1976 Federal Surplus/Deficit	2055	1308	218	1176	1172	4033	4281	2782	1936	4669	3516	6139	3327	4686	2960
1977 Federal Surplus/Deficit	4647	4280	3403	923	-93	-585	248	-2240	-1541	-1271	-1534	507	475	442	383
1978 Federal Surplus/Deficit	1880	-31	-580	-43	-308	-417	1368	-204	2400	1530	2337	3910	2988	3304	1273
-Ranked Averages-															
Top Ten Percent	2664	2433	204	941	357	2350	4786	3869	3636	4057	4474	6141	5743	4276	3260
Middle Eighty Percent	2682	1570	188	757	87	372	1642	487	804	1818	2245	4197	4372	3087	1679
Bottom Ten Percent	2363	1010	-327	412	-45	-721	-1271	-1966	-900	-517	-1028	-78	1247	1271	-122

Exhibit 15: OY 2010-11 Monthly 50-WY Energy

*Federal Surplus/Deficit by Water Year
PNW Loads and Resource Study
2010 - 2011 Operating Year
2002 White Book*

9/9/2003

Average Energy in Megawatts	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	2866	787	-377	230	-191	-759	-208	-2281	-841	-875	-1130	-808	1066	1660	-140
1930 Federal Surplus/Deficit	1488	566	-490	399	-25	-777	-2304	-1303	-787	-499	-718	-865	971	1891	-239
1931 Federal Surplus/Deficit	1962	831	-367	343	-61	-729	-2254	-2256	-1011	35	-1355	-347	488	992	-372
1932 Federal Surplus/Deficit	1829	360	-341	256	-176	-829	-2227	-2409	398	2949	4782	4639	3826	2820	910
1933 Federal Surplus/Deficit	3139	2193	-144	417	-422	108	2310	1506	-818	403	1318	2979	6114	5204	1732
1934 Federal Surplus/Deficit	2675	2958	463	1546	1310	4467	5475	3832	2480	5657	5037	4093	304	2437	2881
1935 Federal Surplus/Deficit	1236	-137	-526	155	-463	-349	1763	2168	-1317	190	2021	2243	2672	2806	901
1936 Federal Surplus/Deficit	2674	850	-355	354	-151	-766	-1542	-2241	-608	-607	1720	5783	2326	1764	574
1937 Federal Surplus/Deficit	2405	599	-455	397	-101	-787	-2039	-2065	-838	-647	-856	-401	445	1243	-321
1938 Federal Surplus/Deficit	2009	223	-463	559	-230	-697	2566	-542	1448	2306	2512	4838	3056	2386	1371
1939 Federal Surplus/Deficit	1762	426	-52	477	-159	-800	197	-1949	-262	232	1079	3490	974	1870	461
1940 Federal Surplus/Deficit	2593	721	-447	591	-206	-584	-468	-1157	1678	1152	1850	2147	1720	1248	640
1941 Federal Surplus/Deficit	1665	294	-497	377	-327	-183	81	-2212	-744	-998	-938	238	1292	602	-113
1942 Federal Surplus/Deficit	1435	435	-123	316	-449	1388	2724	-1580	-1333	-294	531	1882	4264	3355	958
1943 Federal Surplus/Deficit	3119	2140	-156	377	-327	-374	1938	1163	2107	5298	4670	4776	4058	3460	2053
1944 Federal Surplus/Deficit	2901	2062	-163	482	-129	-823	165	-2208	-1265	-823	-1291	-824	209	433	-225
1945 Federal Surplus/Deficit	1524	-77	-383	183	-159	-818	-2186	-1790	-977	-751	-1032	2144	3308	1814	81
1946 Federal Surplus/Deficit	1697	1202	-572	489	-148	-746	603	567	2202	2767	3764	5129	3464	3286	1582
1947 Federal Surplus/Deficit	3209	1838	71	362	-177	2209	2954	2098	2476	1158	2640	4263	3148	2919	2062
1948 Federal Surplus/Deficit	3213	1245	-100	2565	807	1128	2819	-365	1066	1386	3581	6268	6826	3737	2455
1949 Federal Surplus/Deficit	2804	3255	790	661	-257	-137	748	-532	3291	1445	4491	5147	2964	1140	1651
1950 Federal Surplus/Deficit	1490	-43	-767	384	-336	-1024	1012	2508	4050	3837	3684	4028	5915	3844	2008
1951 Federal Surplus/Deficit	2416	2699	228	1394	1302	3214	4335	4309	2710	3696	4222	5173	2327	3761	2939
1952 Federal Surplus/Deficit	2903	2803	532	2020	1.3	1532	2593	1018	1457	3917	4390	6172	3266	2155	2313
1953 Federal Surplus/Deficit	2920	1096	-227	348	-67	-784	-53	2142	-331	-719	974	3699	5674	3921	1371
1954 Federal Surplus/Deficit	3047	1897	104	639	-81	567	1622	2387	1053	3119	2453	4506	5174	4647	2156
1955 Federal Surplus/Deficit	4045	3012	2735	1237	432	711	-399	-1879	-1196	212	-169	1624	6490	5718	1585
1956 Federal Surplus/Deficit	2819	3182	-5.3	1108	703	2880	4875	1542	3421	3900	5888	6219	6480	4096	3268
1957 Federal Surplus/Deficit	3177	2408	46	763	-289	736	1316	-1236	677	4464	2764	5764	6190	2338	1893
1958 Federal Surplus/Deficit	2057	653	-314	491	-158	-663	833	1052	1280	448	3363	5107	4652	1901	1453
1959 Federal Surplus/Deficit	2085	939	-216	387	327	1498	4348	2737	1282	2630	1902	3396	5129	4453	2260
1960 Federal Surplus/Deficit	2919	2230	2513	3197	1796	2391	2600	-301	1100	5762	3734	2931	3464	2947	2497
1961 Federal Surplus/Deficit	3215	804	-141	540	54	-168	1374	1764	1967	2670	2726	3663	6059	2487	1859
1962 Federal Surplus/Deficit	2272	1311	-506	454	-179	-915	1250	-1261	-800	4057	4435	3086	2594	3173	1078
1963 Federal Surplus/Deficit	2734	1733	-269	961	472	1477	1585	307	338	303	651	3893	3225	2891	1466
1964 Federal Surplus/Deficit	3443	1947	179	276	-122	-544	1117	-494	-842	1374	1521	2675	6151	5234	1481
1965 Federal Surplus/Deficit	2953	2642	786	1364	14	3079	5392	3912	2968	2395	4314	4938	4015	2443	2922
1966 Federal Surplus/Deficit	3016	2410	134	893	62	656	2236	-753	-542	3109	1373	3000	2052	3264	1330
1967 Federal Surplus/Deficit	3259	1557	-407	347	-179	-197	2652	3326	433	2042	869	1750	5706	4540	1819
1968 Federal Surplus/Deficit	3018	2315	238	706	-51	494	2138	1386	1246	-1036	750	1864	3851	4189	1549
1969 Federal Surplus/Deficit	3181	2454	1193	1484	848	1358	4201	2862	1716	4892	4462	6017	3723	3127	2835
1970 Federal Surplus/Deficit	3111	1156	-227	477	-54	-381	1728	1312	-314	-556	1568	2925	4191	1261	1130
1971 Federal Surplus/Deficit	1913	804	-504	466	39	-508	3404	4891	2469	3128	3933	6371	5923	4420	2655
1972 Federal Surplus/Deficit	3136	3337	403	556	-41	636	3206	4499	5069	5403	2404	6073	6369	4856	3230
1973 Federal Surplus/Deficit	3691	3033	859	726	-176	875	2591	-1920	-907	-1167	-1041	78	1250	1595	602
1974 Federal Surplus/Deficit	1806	107	-599	85	-477	1676	5883	4852	3803	4689	5380	5488	6497	6097	3275
1975 Federal Surplus/Deficit	3199	3309	806	235	-156	-275	2008	877	2486	1475	1800	3824	4650	5119	2039
1976 Federal Surplus/Deficit	2016	1268	176	1137	1116	3985	4234	2736	1893	4629	3482	5577	2720	4662	2828
1977 Federal Surplus/Deficit	4611	4242	3366	883	-150	-640	194	-2296	-1591	-1317	-1574	-63	-137	412	246
1978 Federal Surplus/Deficit	1840	-73	-624	-86	-364	-473	1315	-257	2358	1490	2303	3346	2380	3278	1138
-Ranked Averages-															
Top Ten Percent	2626	2394	162	901	300	2297	4738	3823	3594	4017	4441	5578	5137	4251	3127
Middle Eighty Percent	2644	1530	146	716	31	318	1591	437	759	1776	2209	3632	3765	3061	1545
Bottom Ten Percent	2325	969	-370	370	-101	-775	-1328	-2022	-949	-562	-1070	-649	636	1244	-260

Exhibit 16: OY 2011-12 Monthly 50-WY Energy

*Federal Surplus/Deficit by Water Year
PNW Loads and Resource Study
2011 - 2012 Operating Year
2002 White Book*

9/9/2003

Average Energy in Megawatts	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	2829	747	-405	156	-275	-888	-304	-2268	-949	-944	-1201	-384	1523	1551	-127
1930 Federal Surplus/Deficit	1450	526	-518	324	-108	-906	-2403	-1287	-894	-567	-789	-442	1427	1781	-226
1931 Federal Surplus/Deficit	1925	792	-395	267	-144	-858	-2352	-2242	-1119	-32	-1427	78	943	883	-359
1932 Federal Surplus/Deficit	1792	320	-369	181	-259	-960	-2326	-2396	293	2883	4717	5068	4286	2711	924
1933 Federal Surplus/Deficit	3102	2155	-171	343	-505	-21	2218	1527	-924	336	1251	3408	6573	5095	1747
1934 Federal Surplus/Deficit	2638	2920	438	1475	1228	4343	5383	3853	2377	5591	4972	4522	758	2328	2897
1935 Federal Surplus/Deficit	1198	-176	-552	80	-546	-479	1670	2189	-1422	123	1954	2670	3130	2696	915
1936 Federal Surplus/Deficit	2637	812	-382	279	-233	-895	-1638	-2227	-715	-674	1655	6212	2785	1655	588
1937 Federal Surplus/Deficit	2368	559	-483	322	-184	-917	-2137	-2051	-946	-715	-927	21	900	1133	-308
1938 Federal Surplus/Deficit	1972	185	-491	485	-312	-826	2473	-524	1344	2239	2447	5267	3516	2277	1386
1939 Federal Surplus/Deficit	1725	387	-79	403	-242	-930	104	-1934	-368	166	1012	3919	1429	1761	475
1940 Federal Surplus/Deficit	2556	681	-475	517	-289	-714	-564	-1141	1575	1085	1785	2575	2176	1139	654
1941 Federal Surplus/Deficit	1627	255	-525	303	-409	-312	-16	-2197	-851	-1064	-1006	663	1749	492	-100
1942 Federal Surplus/Deficit	1397	396	-151	242	-531	1259	2632	-1564	-1441	-361	465	2309	4723	3246	973
1943 Federal Surplus/Deficit	3081	2102	-183	303	-410	-503	1846	1182	2004	5231	4605	5204	4517	3351	2068
1944 Federal Surplus/Deficit	2864	2024	-190	408	-213	-953	69	-2194	-1373	-892	-1361	-399	664	323	-212
1945 Federal Surplus/Deficit	1486	-117	-411	108	-243	-948	-2285	-1775	-1085	-820	-1104	2573	3768	1704	94
1946 Federal Surplus/Deficit	1659	1163	-600	414	-231	-875	508	585	2099	2700	3699	5558	3923	3177	1597
1947 Federal Surplus/Deficit	3172	1800	44	289	-260	2080	2862	2119	2373	1091	2575	4692	3608	2810	2078
1948 Federal Surplus/Deficit	3175	1206	-128	2493	725	1001	2727	-348	963	1320	3516	6697	7285	3628	2471
1949 Federal Surplus/Deficit	2767	3217	764	588	-340	-267	654	-516	3188	1378	4426	5576	3423	1031	1666
1950 Federal Surplus/Deficit	1452	-83	-796	309	-419	-1153	919	2528	3947	3770	3619	4457	6375	3735	2023
1951 Federal Surplus/Deficit	2379	2661	201	1322	1220	3089	4244	4330	2607	3629	4157	5602	2786	3652	2955
1952 Federal Surplus/Deficit	2866	2766	506	1948	-81	1404	2501	1039	1352	3850	4325	6601	3726	2046	2329
1953 Federal Surplus/Deficit	2882	1058	-255	274	-150	-913	-150	2163	-435	-786	908	4128	6134	3812	1386
1954 Federal Surplus/Deficit	3010	1860	77	566	-163	438	1529	2408	950	3053	2388	4935	5633	4538	2172
1955 Federal Surplus/Deficit	4008	2974	2711	1165	350	583	-495	-1865	-1305	145	-234	2051	6949	5609	1600
1956 Federal Surplus/Deficit	2781	3144	-32	1035	620	2754	4783	1564	3318	3834	5823	6648	6939	3987	3284
1957 Federal Surplus/Deficit	3140	2370	19	691	-372	608	1223	-1220	573	4397	2699	6193	6650	2229	1908
1958 Federal Surplus/Deficit	2020	613	-342	417	-241	-793	739	1070	1177	382	3298	5536	5112	1791	1469
1959 Federal Surplus/Deficit	2048	900	-244	314	245	1370	4256	2758	1178	2563	1837	3825	5589	4344	2276
1960 Federal Surplus/Deficit	2882	2192	2489	3125	1713	2265	2508	-283	996	5695	3669	3360	3923	2837	2513
1961 Federal Surplus/Deficit	3178	765	-168	467	-29	-298	1280	1785	1864	2603	2660	4092	6518	2378	1874
1962 Federal Surplus/Deficit	2235	1272	-534	380	-262	-1045	1156	-1243	-908	3991	4370	3515	3054	3064	1092
1963 Federal Surplus/Deficit	2696	1695	-297	889	390	1349	1493	328	231	237	585	4322	3684	2782	1481
1964 Federal Surplus/Deficit	3405	1909	152	202	-205	-674	1024	-476	-950	1308	1455	3104	6610	5125	1496
1965 Federal Surplus/Deficit	2915	2604	759	1292	-68	2952	5300	3933	2865	2329	4249	5367	4474	2334	2938
1966 Federal Surplus/Deficit	2979	2372	108	820	-20	527	2144	-734	-649	3043	1307	3429	2510	3155	1345
1967 Federal Surplus/Deficit	3221	1517	-435	273	-263	-327	2561	3347	329	1976	802	2178	6165	4431	1835
1968 Federal Surplus/Deficit	2980	2277	211	633	-133	365	2046	1407	1143	-1104	683	2290	4310	4079	1564
1969 Federal Surplus/Deficit	3144	2416	1169	1412	765	1231	4109	2883	1613	4825	4396	6446	4182	3017	2851
1970 Federal Surplus/Deficit	3073	1117	-254	404	-137	-511	1633	1333	-419	-623	1502	3354	4650	1152	1145
1971 Federal Surplus/Deficit	1876	764	-532	392	-45	-637	3312	4913	2366	3062	3868	6800	6382	4311	2671
1972 Federal Surplus/Deficit	3099	3299	376	482	-124	507	3114	4520	4965	5336	2339	6502	6828	4747	3246
1973 Federal Surplus/Deficit	3654	2995	832	652	-259	747	2499	-1906	-1015	-1235	-1109	503	1706	1486	616
1974 Federal Surplus/Deficit	1769	66	-628	9.8	-560	1547	5791	4873	3700	4622	5315	5917	6956	5988	3290
1975 Federal Surplus/Deficit	3162	3271	780	161	-240	-405	1916	898	2383	1408	1735	4253	5109	5010	2054
1976 Federal Surplus/Deficit	1979	1230	150	1065	1033	3862	4142	2757	1790	4563	3417	6005	3179	4552	2844
1977 Federal Surplus/Deficit	4573	4204	3342	810	-234	-770	98	-2283	-1700	-1387	-1644	361	317	301	260
1978 Federal Surplus/Deficit	1803	-113	-652	-161	-448	-603	1221	-240	2255	1424	2238	3775	2839	3169	1153
-Ranked Averages-															
Top Ten Percent	2589	2355	135	828	217	2170	4646	3844	3491	3950	4376	6007	5596	4142	3143
Middle Eighty Percent	2606	1491	119	643	-52	189	1498	455	654	1710	2144	4061	4224	2951	1560
Bottom Ten Percent	2287	930	-398	295	-185	-904	-1426	-2008	-1056	-630	-1141	-225	1091	1134	-247

Exhibit 17: OY 2012-13 Monthly 50-WY Energy

*Federal Surplus/Deficit by Water Year
PNW Loads and Resource Study
2012 - 2013 Operating Year
2002 White Book*

9/9/2003

Average Energy in Megawatts	Aug1	Aug16	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr1	Apr16	May	Jun	Jul	Avg
1929 Federal Surplus/Deficit	2728	643	-490	113	-316	-924	-361	-2470	-981	-991	-1251	-955	920	1511	-282
1930 Federal Surplus/Deficit	1347	421	-604	280	-148	-941	-2464	-1487	-926	-613	-839	-1013	823	1742	-382
1931 Federal Surplus/Deficit	1824	688	-482	223	-184	-894	-2412	-2445	-1152	-75	-1479	-493	339	843	-515
1932 Federal Surplus/Deficit	1691	215	-455	137	-300	-998	-2386	-2598	264	2841	4675	4504	3686	2672	770
1933 Federal Surplus/Deficit	3001	2053	-256	300	-545	-57	2166	1333	-954	294	1206	2844	5974	5057	1595
1934 Federal Surplus/Deficit	2537	2819	355	1435	1188	4315	5333	3660	2351	5550	4931	3958	152	2288	2746
1935 Federal Surplus/Deficit	1097	-280	-637	36	-587	-516	1617	1996	-1452	80	1911	2103	2529	2658	763
1936 Federal Surplus/Deficit	2536	709	-467	236	-274	-931	-1696	-2429	-747	-719	1613	5649	2185	1616	434
1937 Federal Surplus/Deficit	2267	456	-569	279	-224	-952	-2197	-2253	-978	-761	-976	-551	295	1094	-464
1938 Federal Surplus/Deficit	1871	82	-576	441	-352	-861	2420	-721	1317	2197	2405	4703	2915	2238	1233
1939 Federal Surplus/Deficit	1624	283	-163	361	-283	-966	50	-2135	-399	123	967	3354	824	1722	322
1940 Federal Surplus/Deficit	2455	577	-560	474	-329	-750	-622	-1342	1548	1042	1743	2009	1571	1100	501
1941 Federal Surplus/Deficit	1526	151	-611	261	-449	-346	-75	-2399	-883	-1107	-1051	95	1145	452	-254
1942 Federal Surplus/Deficit	1295	292	-236	199	-571	1224	2581	-1763	-1473	-404	421	1743	4123	3208	820
1943 Federal Surplus/Deficit	2980	2000	-268	260	-451	-539	1794	986	1978	5190	4564	4641	3918	3312	1917
1944 Federal Surplus/Deficit	2763	1922	-276	366	-254	-989	12	-2397	-1407	-938	-1410	-969	59	282	-367
1945 Federal Surplus/Deficit	1384	-222	-497	64	-284	-984	-2345	-1977	-1118	-866	-1155	2008	3168	1665	-61
1946 Federal Surplus/Deficit	1557	1061	-686	371	-271	-910	452	388	2072	2658	3657	4995	3323	3138	1445
1947 Federal Surplus/Deficit	3071	1698	-40	247	-301	2046	2812	1925	2346	1048	2532	4128	3008	2771	1927
1948 Federal Surplus/Deficit	3074	1103	-213	2453	685	968	2676	-546	936	1277	3474	6135	6686	3590	2320
1949 Federal Surplus/Deficit	2666	3116	681	547	-381	-303	600	-716	3162	1336	4384	5012	2823	991	1514
1950 Federal Surplus/Deficit	1350	-188	-882	266	-460	-1188	866	2333	3922	3728	3578	3893	5776	3696	1871
1951 Federal Surplus/Deficit	2277	2560	116	1282	1180	3059	4193	4138	2581	3587	4115	5039	2186	3613	2805
1952 Federal Surplus/Deficit	2765	2664	422	1908	-121	1371	2450	845	1324	3809	4284	6038	3126	2007	2177
1953 Federal Surplus/Deficit	2781	954	-341	231	-191	-949	-208	1970	-463	-829	864	3564	5535	3773	1234
1954 Federal Surplus/Deficit	2909	1758	-7.7	524	-204	402	1477	2215	922	3011	2346	4372	5034	4500	2021
1955 Federal Surplus/Deficit	3907	2873	2630	1125	310	548	-552	-2067	-1338	102	-277	1485	6351	5572	1447
1956 Federal Surplus/Deficit	2680	3043	-117	995	579	2724	4733	1371	3292	3792	5782	6085	6340	3949	3133
1957 Federal Surplus/Deficit	3039	2268	-66	650	-413	573	1169	-1421	546	4356	2657	5631	6051	2190	1756
1958 Federal Surplus/Deficit	1918	509	-428	375	-282	-830	685	874	1151	339	3256	4973	4513	1752	1316
1959 Federal Surplus/Deficit	1947	796	-330	272	205	1337	4206	2566	1150	2521	1795	3261	4990	4305	2124
1960 Federal Surplus/Deficit	2781	2090	2408	3086	1674	2234	2457	-480	968	5654	3628	2796	3323	2798	2362
1961 Federal Surplus/Deficit	3077	661	-253	425	-69	-335	1227	1592	1837	2561	2616	3528	5920	2339	1722
1962 Federal Surplus/Deficit	2133	1169	-620	338	-304	-1082	1102	-1441	-941	3949	4328	2951	2453	3025	939
1963 Federal Surplus/Deficit	2596	1593	-383	848	350	1316	1441	134	199	194	540	3758	3084	2743	1329
1964 Federal Surplus/Deficit	3305	1807	68	159	-247	-711	970	-674	-982	1265	1411	2540	6012	5087	1343
1965 Federal Surplus/Deficit	2814	2503	676	1252	-108	2919	5250	3741	2839	2286	4207	4804	3874	2295	2787
1966 Federal Surplus/Deficit	2878	2270	24	779	-60	491	2092	-931	-681	3001	1264	2865	1908	3116	1192
1967 Federal Surplus/Deficit	3121	1414	-521	231	-304	-363	2509	3154	301	1933	756	1614	5566	4392	1683
1968 Federal Surplus/Deficit	2879	2175	127	592	-173	330	1994	1214	1116	-1149	637	1723	3711	4041	1412
1969 Federal Surplus/Deficit	3043	2314	1087	1372	725	1197	4058	2691	1586	4784	4355	5883	3582	2979	2701
1970 Federal Surplus/Deficit	2972	1013	-340	363	-178	-548	1579	1140	-449	-666	1459	2789	4051	1113	992
1971 Federal Surplus/Deficit	1774	660	-618	349	-86	-672	3261	4721	2340	3020	3826	6237	5784	4273	2519
1972 Federal Surplus/Deficit	2998	3198	292	440	-165	471	3063	4328	4940	5295	2297	5939	6230	4709	3095
1973 Federal Surplus/Deficit	3553	2894	748	611	-300	712	2448	-2107	-1047	-1280	-1156	-67	1102	1446	463
1974 Federal Surplus/Deficit	1667	-39	-714	-34	-601	1512	5741	4681	3675	4581	5274	5354	6357	5951	3139
1975 Federal Surplus/Deficit	3061	3170	696	118	-282	-441	1863	703	2356	1366	1692	3689	4510	4972	1902
1976 Federal Surplus/Deficit	1878	1128	66	1024	993	3834	4091	2564	1764	4521	3376	5442	2579	4514	2694
1977 Federal Surplus/Deficit	4473	4103	3261	768	-275	-805	42	-2485	-1734	-1434	-1693	-209	-289	259	105
1978 Federal Surplus/Deficit	1701	-218	-738	-205	-489	-639	1166	-438	2229	1381	2195	3211	2239	3130	1000
-Ranked Averages-															
Top Ten Percent	2488	2253	51	787	177	2137	4596	3652	3466	3908	4335	5444	4997	4103	2992
Middle Eighty Percent	2505	1388	35	601	-92	154	1444	258	626	1667	2100	3496	3623	2913	1407
Bottom Ten Percent	2186	826	-484	252	-225	-940	-1485	-2210	-1089	-675	-1191	-796	487	1094	-402