
Exhibits 8 – 17

***Federal System Energy Surpluses and Deficits under the 2002 White Book Load
Forecast for 50 Historical Water Conditions***

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Exhibit 8: OY 2003-04 Monthly 50-WY Energy

*Federal Surplus/Deficit by Water Year
PNW Loads and Resource Study
2003 - 2004 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	2774	767	351	677	397	-199	444	-1537	-243	-586	-1218	-617	1525	1972	303
1930 Federal Surplus/Deficit	1442	543	237	864	542	-227	-1616	-578	-198	-217	-790	-670	1410	2180	203
1931 Federal Surplus/Deficit	1896	798	363	813	511	-187	-1569	-1518	-418	307	-1432	-168	905	1273	66
1932 Federal Surplus/Deficit	1764	334	383	717	400	-258	-1536	-1670	984	3179	4585	4712	4210	3096	1331
1933 Federal Surplus/Deficit	3056	2144	577	862	154	663	2893	2138	-249	600	1210	3128	6391	5425	2124
1934 Federal Surplus/Deficit	2587	2874	1154	1959	1887	4945	6014	4431	2993	5783	4858	4182	758	2721	3258
1935 Federal Surplus/Deficit	1174	-164	182	617	120	215	2355	2788	-763	449	1896	2411	3105	3069	1315
1936 Federal Surplus/Deficit	2581	812	362	803	419	-223	-885	-1503	-17	-355	1537	5850	2715	2050	988
1937 Federal Surplus/Deficit	2341	575	275	853	467	-241	-1361	-1335	-252	-370	-940	-184	915	1542	123
1938 Federal Surplus/Deficit	1945	185	262	1016	335	-144	3162	137	2002	2519	2376	4921	3444	2663	1776
1939 Federal Surplus/Deficit	1702	416	665	924	424	-237	808	-1230	323	496	978	3641	1422	2164	892
1940 Federal Surplus/Deficit	2513	694	280	1035	358	-30	190	-427	2222	1425	1690	2318	2165	1545	1068
1941 Federal Surplus/Deficit	1608	266	229	825	243	363	756	-1476	-151	-749	-1081	405	1744	919	323
1942 Federal Surplus/Deficit	1388	411	610	778	132	1954	3278	-858	-735	-17	431	2054	4662	3610	1382
1943 Federal Surplus/Deficit	3023	2095	568	826	258	198	2543	1869	2662	5508	4496	4854	4377	3719	2453
1944 Federal Surplus/Deficit	2826	2007	574	931	459	-255	816	-1459	-661	-528	-1395	-651	674	762	220
1945 Federal Surplus/Deficit	1478	-92	346	649	423	-258	-1489	-1043	-375	-461	-1101	2227	3703	2091	515
1946 Federal Surplus/Deficit	1656	1173	159	954	431	-186	1260	1263	2741	2995	3561	5205	3854	3557	1994
1947 Federal Surplus/Deficit	3116	1793	790	815	408	2793	3509	2769	3007	1387	2515	4334	3544	3190	2464
1948 Federal Surplus/Deficit	3138	1225	623	2964	1391	1659	3408	352	1602	1613	3405	6325	1725	3962	2842
1949 Federal Surplus/Deficit	2720	3174	1502	1100	325	433	1364	199	3824	1654	4288	5235	3383	1445	2061
1950 Federal Surplus/Deficit	1444	-50	-33	845	245	-470	1617	3184	4561	4000	3497	4143	6191	4102	2403
1951 Federal Surplus/Deficit	2348	2632	951	1821	1897	3731	4885	4924	3245	3854	4032	5250	2761	4012	3326
1952 Federal Surplus/Deficit	2819	2737	1240	2432	575	2085	3181	1687	2023	4136	4241	6221	3632	2432	2706
1953 Federal Surplus/Deficit	2838	1082	504	805	510	-231	635	2791	223	-515	886	3854	5981	4182	1783
1954 Federal Surplus/Deficit	2961	1849	822	1077	493	1128	2222	3028	1598	3326	2278	4604	5548	4880	2551
1955 Federal Surplus/Deficit	3934	2935	3389	1659	1005	1248	253	-1143	-604	470	-321	1823	6775	5928	1987
1956 Federal Surplus/Deficit	2732	3106	714	1535	1294	3410	5424	2196	3966	4065	5668	6201	6743	4342	3634
1957 Federal Surplus/Deficit	3090	2350	766	1202	295	1298	1926	-503	1235	4628	2596	5848	4661	2633	2291
1958 Federal Surplus/Deficit	2002	643	415	943	421	-90	1447	1750	1805	711	3187	5186	4991	2206	1862
1959 Federal Surplus/Deficit	2032	913	511	830	913	2050	4910	3352	1844	2846	1766	3534	5436	4710	2656
1960 Federal Surplus/Deficit	2830	2170	3176	3597	2374	2907	3150	384	1660	5903	3587	3075	3862	3217	2887
1961 Federal Surplus/Deficit	3123	789	572	979	629	398	1974	2416	2494	2861	2597	3776	6419	2768	2259
1962 Federal Surplus/Deficit	2201	1273	224	898	407	-347	1860	-562	-203	4301	4178	3242	3013	3439	1496
1963 Federal Surplus/Deficit	2645	1694	458	1399	1052	2021	2169	986	931	552	511	4020	3556	3159	1871
1964 Federal Surplus/Deficit	3353	1908	894	725	464	23	1725	193	-250	1582	1418	2810	6479	5452	1887
1965 Federal Surplus/Deficit	2865	2580	1491	1783	583	3655	5946	4545	3509	2625	4077	5024	4381	2738	3311
1966 Federal Surplus/Deficit	2931	2362	851	1330	633	1227	2830	-84	50	3316	1233	3138	2471	3522	1741
1967 Federal Surplus/Deficit	3158	1533	320	796	402	363	3236	3943	977	2236	707	1901	5979	4790	2210
1968 Federal Surplus/Deficit	2924	2250	951	1146	525	1061	2736	2041	1785	-757	615	2048	4225	4454	1957
1969 Federal Surplus/Deficit	3084	2393	1882	1907	1431	1899	4770	3485	2278	5038	4245	6079	4102	3400	3218
1970 Federal Surplus/Deficit	3036	1127	499	917	526	189	2375	1980	251	-342	1375	3050	4530	1561	1540
1971 Federal Surplus/Deficit	1854	797	237	925	630	65	4006	5513	3022	3316	3734	6384	6276	4673	3048
1972 Federal Surplus/Deficit	3042	3259	1118	1002	543	1207	3807	5124	5573	5553	2273	6117	6668	5073	3608
1973 Federal Surplus/Deficit	3585	2953	1569	1167	410	1439	3193	-1186	-313	-904	-1173	271	1683	1894	1030
1974 Federal Surplus/Deficit	1743	90	133	559	116	2253	6431	5462	4324	4833	5142	5568	6861	6314	3660
1975 Federal Surplus/Deficit	3109	3228	1513	688	432	297	2611	1539	3040	1723	1700	3931	5027	5321	2440
1976 Federal Surplus/Deficit	1947	1234	893	1573	1707	4499	4792	3368	2436	4770	3292	5641	3096	4898	3210
1977 Federal Surplus/Deficit	4486	4152	4008	1316	437	-77	839	-1554	-991	-1030	-1692	101	314	729	673
1978 Federal Surplus/Deficit	1781	-98	104	383	224	122	1959	467	2890	1706	2161	3465	2785	3551	1561
-Ranked Averages-															
Top Ten Percent	2546	2333	881	1340	887	2851	5299	4450	4124	4186	4238	5632	5483	4496	3508
Middle Eighty Percent	2565	1489	861	1160	611	875	2201	1120	1320	1997	2057	3749	4136	3328	1951
Bottom Ten Percent	2256	938	360	828	475	-222	-657	-1286	-354	-279	-1155	-458	1086	1546	183

Exhibit 9: OY 2004-05 Monthly 50-WY Energy

*Federal Surplus/Deficit by Water Year
PNW Loads and Resource Study
2004 - 2005 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	3138	1115	-25	684	381	-181	426	-1634	-260	-597	-1250	-1111	522	1991	166
1930 Federal Surplus/Deficit	1803	891	-139	869	529	-208	-1637	-672	-214	-228	-825	-1164	408	2201	66
1931 Federal Surplus/Deficit	2259	1147	-13	818	497	-168	-1590	-1614	-434	297	-1464	-662	-94	1294	-70
1932 Federal Surplus/Deficit	2126	682	7.5	723	386	-241	-1557	-1766	969	3172	4551	4253	3217	3119	1198
1933 Federal Surplus/Deficit	3421	2495	201	870	140	682	2880	2051	-263	619	1156	2605	5495	5455	1997
1934 Federal Surplus/Deficit	2952	3228	781	1969	1873	4971	6009	4348	2984	5843	4814	3672	-245	2742	3127
1935 Federal Surplus/Deficit	1536	184	-193	623	105	233	2341	2702	-777	440	1852	1903	2101	3093	1178
1936 Federal Surplus/Deficit	2947	1160	-13	810	405	-203	-903	-1599	-33	-345	1574	5395	1723	2071	860
1937 Federal Surplus/Deficit	2703	923	-102	859	453	-221	-1381	-1430	-268	-381	-975	-682	-90	1561	-14
1938 Federal Surplus/Deficit	2307	534	-115	1022	322	-125	3149	46	1989	2536	2340	4438	2484	2686	1646
1939 Federal Surplus/Deficit	2064	763	290	931	409	-219	794	-1324	308	487	939	3132	419	2184	754
1940 Federal Surplus/Deficit	2877	1042	-97	1043	345	-11	172	-522	2210	1415	1651	1816	1162	1565	931
1941 Federal Surplus/Deficit	1969	614	-147	832	229	382	736	-1571	-167	-757	-1111	-93	740	937	186
1942 Federal Surplus/Deficit	1748	759	233	784	117	1972	3269	-953	-752	-28	389	1547	3670	3635	1246
1943 Federal Surplus/Deficit	3389	2445	192	833	243	215	2529	1777	2650	5513	4486	4373	3479	3765	2331
1944 Federal Surplus/Deficit	3191	2359	197	938	444	-237	798	-1556	-679	-540	-1426	-1144	-329	780	84
1945 Federal Surplus/Deficit	1838	255	-31	655	408	-239	-1511	-1139	-392	-473	-1136	1810	2735	2114	388
1946 Federal Surplus/Deficit	2016	1522	-218	960	417	-167	1242	1171	2730	2992	3577	4719	2850	3581	1862
1947 Federal Surplus/Deficit	3481	2143	414	822	393	2810	3501	2679	2996	1381	2454	3885	2532	3214	2331
1948 Federal Surplus/Deficit	3501	1573	248	2976	1376	1680	3396	259	1590	1620	3393	5866	6197	3991	2719
1949 Federal Surplus/Deficit	3085	3529	1127	1108	310	450	1350	104	3814	1686	4290	4775	2376	1464	1931
1950 Federal Surplus/Deficit	1805	296	-410	851	230	-451	1603	3093	4553	4067	3487	3636	5293	4128	2280
1951 Federal Surplus/Deficit	2712	2985	575	1830	1881	3754	4878	4841	3234	3921	4014	4766	1751	4038	3197
1952 Federal Surplus/Deficit	3184	3090	865	2443	560	2104	3169	1598	2009	4154	4212	5770	2682	2455	2581
1953 Federal Surplus/Deficit	3203	1429	128	811	496	-212	614	2704	210	-485	819	3324	5075	4208	1653
1954 Federal Surplus/Deficit	3326	2200	447	1085	479	1146	2208	2940	1585	3343	2292	4101	4535	4908	2418
1955 Federal Surplus/Deficit	4302	3289	3019	1669	991	1268	236	-1239	-621	461	-353	1289	5850	5960	1856
1956 Federal Surplus/Deficit	3098	3460	339	1544	1279	3432	5418	2108	3955	4101	5674	5816	5848	4369	3523
1957 Federal Surplus/Deficit	3456	2702	390	1210	280	1316	1912	-598	1222	4697	2575	5361	5560	2654	2168
1958 Federal Surplus/Deficit	2363	991	39	950	407	-72	1433	1658	1795	695	3191	4736	4021	2226	1734
1959 Federal Surplus/Deficit	2394	1262	134	837	898	2069	4901	3267	1830	2840	1711	2997	4501	4735	2523
1960 Federal Surplus/Deficit	3195	2522	2806	3610	2360	2929	3142	293	1648	5934	3514	2552	2869	3240	2753
1961 Federal Surplus/Deficit	3489	1137	197	987	615	415	1960	2327	2483	2879	2550	3250	5411	2790	2122
1962 Federal Surplus/Deficit	2564	1623	-153	905	392	-329	1845	-654	-220	4294	4208	2707	2012	3463	1359
1963 Federal Surplus/Deficit	3010	2044	82	1407	1038	2041	2157	896	915	544	476	3547	2640	3183	1745
1964 Federal Surplus/Deficit	3718	2258	519	732	449	41	1711	101	-267	1643	1359	2316	5535	5483	1759
1965 Federal Surplus/Deficit	3231	2933	1116	1792	569	3673	5940	4460	3498	2632	4123	4550	3444	2760	3188
1966 Federal Surplus/Deficit	3297	2714	476	1338	619	1244	2817	-173	34	3313	1195	2630	1469	3546	1605
1967 Federal Surplus/Deficit	3524	1881	-56	803	388	382	3224	3858	964	2244	700	1393	5081	4816	2085
1968 Federal Surplus/Deficit	3290	2603	576	1154	511	1079	2722	1953	1773	-768	577	1541	3237	4478	1823
1969 Federal Surplus/Deficit	3450	2745	1509	1916	1416	1920	4761	3400	2264	5095	4250	5609	3095	3423	3090
1970 Federal Surplus/Deficit	3399	1476	123	925	511	207	2359	1891	237	-315	1365	2574	3624	1582	1416
1971 Federal Surplus/Deficit	2216	1144	-140	932	615	83	3993	5430	3010	3366	3733	5972	5314	4700	2928
1972 Federal Surplus/Deficit	3408	3613	743	1010	528	1225	3794	5040	5567	5582	2201	5673	5750	5103	3486
1973 Federal Surplus/Deficit	3953	3308	1195	1174	395	1457	3180	-1282	-330	-914	-1202	-229	682	1914	894
1974 Federal Surplus/Deficit	2105	437	-243	564	101	2270	6427	5380	4315	4898	5167	5097	5877	6345	3536
1975 Federal Surplus/Deficit	3475	3583	1139	695	417	315	2598	1450	3027	1700	1630	3449	4070	5388	2312
1976 Federal Surplus/Deficit	2311	1584	518	1581	1692	4522	4785	3282	2425	4840	3288	5183	2153	4926	3090
1977 Federal Surplus/Deficit	4857	4509	3641	1325	422	-58	822	-1650	-1008	-1041	-1719	-394	-687	747	539
1978 Federal Surplus/Deficit	2143	250	-272	389	208	137	1943	373	2879	1698	2110	2964	1819	3575	1426
-Ranked Averages-															
Top Ten Percent	2911	2686	506	1348	872	2871	5292	4366	4114	4227	4236	5180	4534	4523	3386
Middle Eighty Percent	2930	1839	486	1167	597	894	2187	1030	1307	2010	2030	3259	3169	3354	1821
Bottom Ten Percent	2619	1287	-17	834	461	-203	-677	-1381	-371	-290	-1188	-952	83	1565	46

Exhibit 10: OY 2005-06 Monthly 50-WY Energy

*Federal Surplus/Deficit by Water Year
PNW Loads and Resource Study
2005 - 2006 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	3153	1119	-0.9	658	322	-230	-21	-2080	-735	-1011	-1278	-686	1231	1692	95
1930 Federal Surplus/Deficit	1808	896	-114	841	474	-254	-2089	-1117	-687	-643	-857	-738	1126	1910	-3.8
1931 Federal Surplus/Deficit	2267	1154	11	788	442	-211	-2042	-2059	-907	-117	-1493	-232	631	1009	-139
1932 Federal Surplus/Deficit	2135	688	34	695	329	-289	-2010	-2211	492	2766	4546	4694	3942	2827	1131
1933 Federal Surplus/Deficit	3433	2504	227	844	82	635	2446	1624	-733	220	1137	3049	6217	5175	1934
1934 Federal Surplus/Deficit	2966	3245	813	1949	1814	4933	5582	3926	2522	5442	4803	4126	474	2455	3069
1935 Federal Surplus/Deficit	1544	190	-163	595	46	185	1906	2277	-1242	29	1831	2335	2817	2806	1113
1936 Federal Surplus/Deficit	2961	1168	14	785	350	-247	-1351	-2044	-508	-755	1542	5836	2450	1780	794
1937 Federal Surplus/Deficit	2711	928	-78	832	398	-266	-1831	-1874	-739	-793	-1003	-261	621	1269	-84
1938 Federal Surplus/Deficit	2315	542	-89	995	267	-172	2712	-391	1519	2129	2318	4883	3198	2392	1581
1939 Federal Surplus/Deficit	2072	764	316	905	351	-269	353	-1767	-167	74	908	3567	1137	1892	686
1940 Federal Surplus/Deficit	2889	1047	-72	1018	291	-58	-276	-969	1741	999	1635	2243	1879	1273	863
1941 Federal Surplus/Deficit	1976	619	-122	805	173	336	285	-2017	-641	-1165	-1128	339	1452	637	117
1942 Federal Surplus/Deficit	1753	763	256	754	57	1920	2840	-1397	-1227	-444	360	1977	4389	3348	1178
1943 Federal Surplus/Deficit	3404	2454	217	806	184	163	2086	1328	2175	5104	4462	4819	4191	3467	2262
1944 Federal Surplus/Deficit	3201	2369	218	911	385	-289	351	-2004	-1153	-956	-1450	-714	381	477	12
1945 Federal Surplus/Deficit	1843	258	-5.9	625	350	-287	-1966	-1589	-867	-888	-1167	2235	3448	1822	316
1946 Federal Surplus/Deficit	2020	1527	-194	930	359	-218	791	728	2260	2587	3556	5168	3579	3289	1795
1947 Federal Surplus/Deficit	3496	2151	439	793	333	2750	3070	2237	2530	979	2437	4323	3260	2922	2266
1948 Federal Surplus/Deficit	3512	1576	272	2958	1316	1635	2956	-188	1124	1216	3375	6307	6923	3708	2654
1949 Federal Surplus/Deficit	3098	3545	1153	1082	252	400	908	-344	3344	1275	4274	5210	3099	1167	1864
1950 Federal Surplus/Deficit	1809	298	-387	822	172	-500	1163	2654	4089	3656	3470	4080	6017	3834	2213
1951 Federal Surplus/Deficit	2721	2998	599	1806	1817	3708	4448	4410	2765	3513	4000	5213	2469	3749	3133
1952 Federal Surplus/Deficit	3196	3103	893	2422	503	2053	2731	1157	1537	3740	4185	6212	3399	2160	2515
1953 Federal Surplus/Deficit	3215	1431	151	783	439	-259	156	2267	-259	-888	796	3765	5792	3914	1585
1954 Federal Surplus/Deficit	3339	2209	472	1060	422	1097	1768	2507	1118	2939	2266	4549	5269	4624	2355
1955 Federal Surplus/Deficit	4320	3304	3057	1647	934	1225	-212	-1685	-1092	50	-371	1724	6582	5683	1793
1956 Federal Surplus/Deficit	3111	3475	365	1521	1218	3383	4987	1670	3482	3699	5656	6259	6575	4081	3459
1957 Federal Surplus/Deficit	3469	2713	415	1184	221	1265	1471	-1047	749	4286	2557	5802	6288	2357	2101
1958 Federal Surplus/Deficit	2370	992	62	922	350	-124	991	1213	1331	286	3169	5171	4751	1927	1667
1959 Federal Surplus/Deficit	2400	1266	158	811	837	2018	4467	2840	1359	2440	1698	3445	5229	4446	2459
1960 Federal Surplus/Deficit	3209	2534	2841	3590	2300	2888	2714	-145	1176	5539	3508	2997	3590	2950	2691
1961 Federal Surplus/Deficit	3503	1140	225	962	558	367	1523	1892	2019	2482	2535	3703	6149	2500	2061
1962 Federal Surplus/Deficit	2574	1630	-128	880	333	-378	1405	-1096	-694	3884	4199	3151	2731	3172	1293
1963 Federal Surplus/Deficit	3023	2050	106	1380	978	1992	1720	452	441	136	458	3977	3354	2892	1677
1964 Federal Surplus/Deficit	3732	2265	545	705	390	-8.5	1272	-337	-740	1224	1339	2752	6254	5202	1693
1965 Federal Surplus/Deficit	3243	2945	1144	1770	513	3613	5505	4023	3027	2223	4101	4988	4152	2458	3121
1966 Federal Surplus/Deficit	3308	2722	500	1313	562	1191	2379	-608	-441	2911	1177	3068	2190	3261	1540
1967 Federal Surplus/Deficit	3540	1885	-32	777	330	333	2788	3430	499	1849	684	1828	5805	4526	2022
1968 Federal Surplus/Deficit	3304	2615	603	1128	453	1027	2282	1515	1306	-1181	560	1970	3960	4188	1757
1969 Federal Surplus/Deficit	3465	2756	1539	1892	1356	1873	4323	2969	1789	4692	4236	6055	3826	3130	3027
1970 Federal Surplus/Deficit	3410	1482	147	900	454	156	1907	1449	-233	-719	1357	3008	4333	1283	1347
1971 Federal Surplus/Deficit	2223	1145	-120	902	554	28	3547	4995	2536	2955	3716	6412	6032	4410	2860
1972 Federal Surplus/Deficit	3423	3629	769	983	468	1172	3350	4606	5101	5186	2190	6114	6471	4825	3423
1973 Federal Surplus/Deficit	3970	3323	1222	1149	335	1405	2737	-1728	-804	-1322	-1220	198	1400	1621	826
1974 Federal Surplus/Deficit	2113	441	-219	532	38	2214	5993	4950	3847	4491	5150	5535	6598	6064	3471
1975 Federal Surplus/Deficit	3488	3599	1166	667	358	262	2157	1014	2555	1297	1611	3887	4780	5098	2245
1976 Federal Surplus/Deficit	2320	1589	543	1555	1629	4474	4350	2850	1954	4433	3271	5622	2865	4642	3024
1977 Federal Surplus/Deficit	4879	4526	3681	1301	364	-109	376	-2097	-1480	-1454	-1740	42	30	454	472
1978 Federal Surplus/Deficit	2150	255	-247	359	148	78	1493	-77	2412	1298	2097	3406	2531	3280	1357
-Ranked Averages-															
Top Ten Percent	2922	2698	531	1322	811	2818	4857	3932	3644	3823	4220	5622	5253	4235	3321
Middle Eighty Percent	2941	1847	513	1141	538	844	1746	590	836	1603	2011	3698	3890	3063	1755
Bottom Ten Percent	2628	1293	7.5	806	404	-250	-1126	-1827	-844	-704	-1216	-526	798	1271	-24

Exhibit 11: OY 2006-07 Monthly 50-WY Energy

*Federal Surplus/Deficit by Water Year
PNW Loads and Resource Study
2006 - 2007 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	2878	832	-287	723	340	-194	-24	-2069	-662	-702	-964	-675	1189	1771	94
1930 Federal Surplus/Deficit	1522	608	-400	902	495	-217	-2099	-1102	-613	-331	-545	-729	1085	1993	-4.9
1931 Federal Surplus/Deficit	1985	868	-275	848	462	-173	-2051	-2047	-834	197	-1182	-221	591	1092	-140
1932 Federal Surplus/Deficit	1854	403	-252	757	348	-257	-2020	-2199	569	3089	4880	4720	3910	2913	1133
1933 Federal Surplus/Deficit	3154	2218	-58	908	102	671	2454	1655	-655	539	1456	3068	6192	5271	1941
1934 Federal Surplus/Deficit	2687	2965	532	2020	1834	4986	5603	3964	2611	5776	5140	4158	427	2538	3080
1935 Federal Surplus/Deficit	1262	-95	-447	656	65	219	1913	2309	-1163	345	2154	2352	2778	2894	1117
1936 Federal Surplus/Deficit	2685	883	-271	848	370	-209	-1355	-2032	-434	-444	1865	5864	2414	1864	796
1937 Federal Surplus/Deficit	2429	641	-364	895	419	-229	-1839	-1861	-666	-481	-691	-255	575	1349	-86
1938 Federal Surplus/Deficit	2034	258	-375	1057	289	-136	2719	-367	1600	2450	2642	4911	3160	2478	1586
1939 Federal Surplus/Deficit	1787	471	32	969	369	-233	358	-1751	-91	390	1229	3588	1093	1974	687
1940 Federal Surplus/Deficit	2609	761	-358	1082	312	-22	-280	-953	1825	1314	1966	2260	1836	1354	865
1941 Federal Surplus/Deficit	1693	334	-408	870	194	374	278	-2004	-567	-848	-806	353	1410	716	117
1942 Federal Surplus/Deficit	1466	475	-31	816	77	1957	2855	-1382	-1154	-130	680	1994	4357	3438	1181
1943 Federal Surplus/Deficit	3126	2166	-69	870	202	198	2094	1351	2260	5433	4794	4848	4158	3555	2269
1944 Federal Surplus/Deficit	2917	2082	-69	976	403	-254	348	-1993	-1082	-647	-1134	-701	336	554	10
1945 Federal Surplus/Deficit	1557	-31	-292	686	368	-252	-1976	-1577	-795	-578	-857	2255	3412	1908	315
1946 Federal Surplus/Deficit	1732	1236	-481	992	378	-181	789	750	2346	2908	3885	5198	3546	3376	1800
1947 Federal Surplus/Deficit	3218	1865	155	857	352	2786	3087	2266	2616	1298	2762	4348	3229	3009	2273
1948 Federal Surplus/Deficit	3230	1284	-13	3032	1335	1677	2967	-170	1209	1532	3702	6342	6902	3804	2663
1949 Federal Surplus/Deficit	2816	3263	870	1149	271	434	912	-329	3433	1594	4604	5236	3061	1248	1869
1950 Federal Surplus/Deficit	1523	6.5	-674	884	191	-463	1169	2680	4182	3980	3800	4105	5993	3926	2221
1951 Federal Surplus/Deficit	2435	2714	314	1875	1836	3754	4467	4449	2853	3837	4332	5243	2430	3840	3143
1952 Federal Surplus/Deficit	2915	2819	610	2493	524	2092	2741	1185	1617	4064	4516	6245	3364	2246	2523
1953 Federal Surplus/Deficit	2933	1138	-136	846	458	-222	150	2298	-178	-573	1115	3787	5763	4004	1590
1954 Federal Surplus/Deficit	3058	1921	188	1126	442	1133	1775	2539	1201	3260	2589	4577	5243	4719	2363
1955 Federal Surplus/Deficit	4045	3021	2784	1716	954	1264	-215	-1672	-1020	366	-45	1737	6560	5783	1799
1956 Federal Surplus/Deficit	2831	3194	80	1589	1235	3427	5007	1701	3569	4027	5994	6292	6553	4173	3471
1957 Federal Surplus/Deficit	3188	2426	131	1250	240	1302	1476	-1032	832	4610	2885	5837	6264	2439	2108
1958 Federal Surplus/Deficit	2084	699	-224	986	369	-90	995	1236	1417	601	3494	5197	4725	2007	1671
1959 Federal Surplus/Deficit	2113	977	-127	877	856	2058	4483	2877	1439	2762	2022	3470	5203	4536	2467
1960 Federal Surplus/Deficit	2930	2248	2567	3665	2321	2932	2730	-122	1257	5874	3839	3017	3556	3037	2700
1961 Federal Surplus/Deficit	3224	849	-59	1028	578	401	1528	1922	2106	2803	2856	3730	6125	2585	2067
1962 Federal Surplus/Deficit	2293	1345	-415	945	351	-344	1410	-1075	-621	4205	4535	3172	2694	3260	1297
1963 Federal Surplus/Deficit	2744	1763	-180	1448	998	2033	1730	479	515	453	782	3998	3322	2979	1683
1964 Federal Surplus/Deficit	3453	1976	261	769	408	26	1276	-315	-667	1539	1658	2771	6231	5300	1698
1965 Federal Surplus/Deficit	2962	2659	862	1840	535	3651	5526	4061	3114	2543	4433	5017	4118	2543	3130
1966 Federal Surplus/Deficit	3025	2431	217	1380	583	1227	2387	-583	-366	3239	1501	3090	2152	3349	1545
1967 Federal Surplus/Deficit	3264	1598	-318	841	348	369	2797	3466	581	2170	1003	1846	5782	4617	2029
1968 Federal Surplus/Deficit	3025	2331	320	1194	473	1063	2290	1546	1390	-870	882	1983	3932	4276	1762
1969 Federal Surplus/Deficit	3187	2471	1260	1962	1375	1913	4339	3006	1872	5020	4570	6088	3797	3217	3038
1970 Federal Surplus/Deficit	3128	1194	-138	966	473	190	1908	1478	-154	-405	1682	3026	4298	1366	1351
1971 Federal Surplus/Deficit	1937	850	-407	966	572	64	3559	5035	2622	3276	4047	6446	6007	4503	2868
1972 Federal Surplus/Deficit	3142	3346	486	1048	488	1207	3361	4645	5197	5518	2517	6147	6448	4923	3434
1973 Federal Surplus/Deficit	3692	3041	939	1215	354	1442	2746	-1714	-730	-1009	-900	208	1360	1702	828
1974 Federal Surplus/Deficit	1831	154	-506	592	56	2249	6016	4991	3939	4820	5486	5566	6576	6164	3482
1975 Federal Surplus/Deficit	3207	3316	884	731	375	297	2164	1042	2639	1616	1932	3911	4749	5195	2252
1976 Federal Surplus/Deficit	2035	1297	259	1623	1648	4523	4369	2884	2040	4761	3600	5653	2827	4735	3034
1977 Federal Surplus/Deficit	4604	4244	3411	1368	381	-73	374	-2085	-1410	-1145	-1423	54	-15	532	473
1978 Federal Surplus/Deficit	1868	-30	-533	419	166	110	1494	-58	2499	1621	2421	3429	2490	3368	1360
-Ranked Averages-															
Top Ten Percent	2640	2413	247	1389	830	2858	4875	3969	3734	4149	4552	5653	5225	4329	3332
Middle Eighty Percent	2660	1560	229	1207	558	881	1752	614	917	1922	2336	3722	3858	3150	1760
Bottom Ten Percent	2346	1006	-279	869	424	-213	-1133	-1814	-771	-393	-903	-516	755	1352	-25

Exhibit 12: OY 2007-08 Monthly 50-WY Energy

*Federal Surplus/Deficit by Water Year
PNW Loads and Resource Study
2007 - 2008 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	2952	889	-260	338	-48	-587	-54	-2048	-690	-738	-1007	-176	1743	1746	84
1930 Federal Surplus/Deficit	1583	667	-372	513	113	-607	-2137	-1077	-638	-367	-593	-231	1648	1973	-14
1931 Federal Surplus/Deficit	2052	929	-248	458	78	-560	-2088	-2024	-860	162	-1228	283	1161	1073	-147
1932 Federal Surplus/Deficit	1919	461	-223	369	-36	-651	-2060	-2176	541	3069	4871	5244	4485	2900	1129
1933 Federal Surplus/Deficit	3226	2285	-29	524	-284	280	2443	1706	-675	523	1424	3588	6770	5276	1944
1934 Federal Surplus/Deficit	2761	3044	569	1645	1448	4613	5605	4026	2607	5768	5126	4695	987	2519	3089
1935 Federal Surplus/Deficit	1326	-37	-414	268	-323	-174	1900	2364	-1178	315	2123	2861	3340	2883	1116
1936 Federal Surplus/Deficit	2760	945	-241	463	-13	-596	-1385	-2009	-460	-476	1822	6389	2988	1846	792
1937 Federal Surplus/Deficit	2495	699	-338	508	37	-617	-1875	-1835	-690	-515	-735	237	1127	1327	-96
1938 Federal Surplus/Deficit	2099	319	-347	671	-93	-527	2704	-329	1582	2427	2611	5441	3721	2465	1585
1939 Federal Surplus/Deficit	1853	527	61	584	-17	-628	339	-1723	-117	358	1187	4102	1654	1953	681
1940 Federal Surplus/Deficit	2681	820	-331	699	-70	-412	-311	-930	1809	1278	1943	2765	2397	1332	859
1941 Federal Surplus/Deficit	1756	393	-381	485	-190	-15	242	-1982	-594	-874	-833	861	1967	689	109
1942 Federal Surplus/Deficit	1527	534	-6	427	-311	1561	2853	-1356	-1182	-167	638	2500	4925	3431	1176
1943 Federal Surplus/Deficit	3204	2233	-41	485	-186	-200	2074	1376	2240	5414	4765	5378	4720	3539	2266
1944 Federal Surplus/Deficit	2989	2153	-45	590	14	-650	318	-1974	-1111	-686	-1173	-197	890	524	0.1
1945 Federal Surplus/Deficit	1618	25	-265	297	-18	-644	-2018	-1558	-824	-616	-906	2758	3973	1894	305
1946 Federal Surplus/Deficit	1791	1297	-455	602	-7.7	-576	755	781	2332	2887	3859	5732	4123	3365	1798
1947 Federal Surplus/Deficit	3295	1931	184	470	-37	2382	3084	2302	2605	1279	2736	4869	3807	2998	2274
1948 Federal Surplus/Deficit	3301	1343	14	2661	947	1291	2952	-145	1196	1509	3677	6871	7484	3809	2666
1949 Federal Surplus/Deficit	2890	3342	901	766	-117	38	891	-306	3420	1567	4584	5754	3628	1224	1866
1950 Federal Surplus/Deficit	1583	60	-649	496	-196	-855	1151	2716	4176	3956	3778	4632	6571	3919	2221
1951 Federal Surplus/Deficit	2505	2788	341	1495	1443	3369	4465	4503	2840	3815	4314	5776	2992	3836	3148
1952 Federal Surplus/Deficit	2989	2893	642	2117	139	1698	2727	1222	1595	4037	4486	6774	3929	2233	2523
1953 Federal Surplus/Deficit	3006	1195	-110	459	73	-613	107	2341	-195	-596	1080	4307	6333	3997	1587
1954 Federal Surplus/Deficit	3133	1989	217	744	58	739	1758	2586	1186	3240	2553	5109	5830	4719	2367
1955 Federal Surplus/Deficit	4127	3099	2832	1338	569	878	-244	-1649	-1044	336	-73	2245	7146	5790	1800
1956 Federal Surplus/Deficit	2905	3270	109	1209	844	3038	5005	1743	3552	4015	5977	6822	7136	4171	3476
1957 Federal Surplus/Deficit	3263	2498	159	867	-148	906	1457	-1010	811	4585	2860	6367	6846	2420	2107
1958 Federal Surplus/Deficit	2148	755	-198	600	-17	-487	975	1265	1409	573	3462	5715	5308	1985	1669
1959 Federal Surplus/Deficit	2177	1036	-100	493	467	1664	4478	2932	1420	2748	1999	4000	5785	4529	2471
1960 Federal Surplus/Deficit	3005	2320	2612	3293	1933	2550	2730	-87	1237	5873	3826	3539	4125	3025	2706
1961 Federal Surplus/Deficit	3300	905	-28	646	193	7.1	1513	1965	2096	2789	2829	4266	6715	2568	2071
1962 Federal Surplus/Deficit	2361	1407	-389	561	-36	-739	1391	-1044	-649	4179	4524	3694	3259	3251	1295
1963 Federal Surplus/Deficit	2819	1826	-153	1064	611	1642	1718	513	488	426	754	4506	3887	2969	1680
1964 Federal Surplus/Deficit	3529	2040	291	384	21	-369	1259	-278	-692	1502	1625	3285	6807	5306	1697
1965 Federal Surplus/Deficit	3038	2732	894	1463	152	3248	5521	4108	3098	2518	4407	5541	4678	2524	3131
1966 Federal Surplus/Deficit	3101	2501	245	997	199	829	2372	-542	-393	3225	1473	3608	2719	3341	1544
1967 Federal Surplus/Deficit	3343	1656	-291	456	-38	-24	2786	3521	568	2160	974	2360	6362	4614	2032
1968 Federal Surplus/Deficit	3102	2404	351	811	87	667	2273	1587	1376	-904	854	2486	4508	4266	1762
1969 Federal Surplus/Deficit	3264	2543	1297	1583	987	1524	4331	3058	1850	5007	4553	6620	4380	3205	3043
1970 Federal Surplus/Deficit	3198	1255	-111	583	87	-206	1876	1514	-173	-431	1665	3537	4856	1344	1346
1971 Federal Surplus/Deficit	2003	906	-385	577	182	-335	3539	5086	2602	3250	4026	6974	6581	4496	2867
1972 Federal Surplus/Deficit	3220	3424	515	663	99	810	3341	4695	5193	5514	2498	6676	7025	4928	3439
1973 Federal Surplus/Deficit	3774	3119	970	831	-34	1045	2727	-1691	-757	-1038	-931	708	1924	1680	822
1974 Federal Surplus/Deficit	1896	210	-480	201	-335	1848	6013	5046	3930	4804	5469	6091	7154	6169	3486
1975 Federal Surplus/Deficit	3284	3395	917	345	-13	-101	2146	1082	2620	1596	1901	4430	5311	5191	2251
1976 Federal Surplus/Deficit	2105	1362	288	1240	1256	4136	4363	2933	2024	4745	3577	6179	3386	4734	3036
1977 Federal Surplus/Deficit	4692	4327	3462	987	-6.7	-468	346	-2064	-1436	-1180	-1458	565	545	504	469
1978 Federal Surplus/Deficit	1932	28	-506	29	-223	-296	1464	-36	2487	1607	2399	3952	3047	3356	1355
-Ranked Averages-															
Top Ten Percent	2713	2485	276	1006	441	2463	4869	4019	3723	4133	4533	6181	5797	4325	3336
Middle Eighty Percent	2731	1625	259	823	171	488	1733	649	898	1899	2309	4242	4428	3139	1759
Bottom Ten Percent	2414	1067	-253	481	39	-604	-1167	-1791	-798	-429	-947	-17	1314	1329	-35