

SUMMARY OF PACIFIC NORTHWEST REGIONAL LOADS AND RESOURCES
 UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS															
1998 WHITE BOOK: 12/31/98															
1999-0 OPERATING YEAR															
RUN DATE: 12/31/98															
1937 WATER YEAR		AUG	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL
PEAK IN MEGAWATTS		1-15	16-31								1-15	16-30			
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FIRM LOADS															
1 SYSTEM FIRM LOADS	1/	26029	26040	25856	28389	30605	32846	33616	32986	30663	28954	28942	27335	26521	26156
2 EXPORTS	3/	3786	3786	3653	3181	2874	2909	2900	2796	2713	2893	2944	2959	3809	3851
3 FED DIVERSITY	4/	-942	-938	-954	-1001	-932	-706	-776	-781	-1007	-919	-917	-1059	-1064	-942
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4 FIRM LOADS		28872	28888	28555	30569	32547	35049	35739	35002	32369	30928	30968	29235	29266	29065
NON-FIRM LOADS															
5 REGIONAL NON-FIRM LOADS	2/	122	122	103	72	130	66	151	124	133	109	109	117	141	124
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6 TOTAL LOADS		28994	29010	28658	30641	32677	35114	35890	35126	32501	31037	31078	29352	29407	29189
HYDRO RESOURCES															
7 REGULATED HYDRO	5/	27343	27243	26575	26769	27476	29030	28949	28508	27983	27961	27919	27628	28478	27310
8 INDEPENDENT HYDRO	6/	1861	1847	1829	1817	1804	1775	1722	1837	1915	1949	1962	2013	2028	1917
9 SUS. PKNG. ADJUSTMENT	7/	-100	-2714	-2649	-2792	-2716	-1597	-4683	-5033	-4863	-4578	-5811	-1200	-2359	-928
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10 TOTAL HYDRO		29104	26376	25755	25794	26564	29208	25988	25312	25035	25332	24070	28441	28147	28299
OTHER RESOURCES															
11 SMALL THERMAL & MISC	8/	68	68	62	65	160	157	158	155	64	67	61	36	18	70
12 COMBUSTION TURBINES	9/	1162	1162	1166	1171	1627	1630	1637	1635	1178	678	1178	1175	1171	1167
13 RENEWABLES	10/	81	81	81	82	83	85	86	85	85	84	84	33	81	81
14 COGENERATION	11/	775	775	775	775	775	755	775	775	775	775	775	306	775	755
15 IMPORTS	12/	2148	2148	1924	2037	2283	2583	2874	2904	2300	1807	1534	1577	2076	1998
16 CENTRALIA		1340	1340	1340	1340	1340	1340	1340	1340	1340	1340	1340	670	1340	1340
17 JIM BRIDGER		707	707	707	706	707	707	707	706	707	530	354	530	707	706
18 COLSTRIP 1 & 2		409	409	397	403	411	405	406	401	401	203	394	189	384	412
19 BOARDMAN		531	531	531	531	531	531	531	531	531	531	531	0	531	531
20 VALMY		242	242	242	242	242	242	242	242	242	242	242	242	242	242
21 COLSTRIP 3		592	592	583	587	593	589	590	586	586	590	581	569	573	594
22 WNP 2		1162	1162	0	0	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162
23 COLSTRIP 4		740	740	740	740	740	740	740	740	740	740	0	740	740	740
24 FED RESOURCE ACQUIS	13/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 NON-UTILITY GENERATION	14/	1429	1429	1338	1236	1193	1178	1164	1192	1226	1382	1378	929	1327	1482
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26 TOTAL RESOURCES		40490	37762	35640	35709	38411	41312	38400	37766	36372	35463	33685	36599	39274	39579

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1999-0 OPERATING YEAR RUN DATE: 12/31/98														
1937 WATER YEAR	AUG		SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL
PEAK IN MEGAWATTS	1-15	16-31								1-15	16-30			
RESERVES & MAINTENANCE	----	----	----	----	----	----	----	----	----	----	----	----	----	----
27 HYD SM THRM & MISC RES 15/	-1634	-1627	-1589	-1593	-1654	-1728	-1723	-1707	-1658	-1643	-1665	-1603	-1691	-1636
28 LARGE THERMAL RESERVES 16/	-1011	-1011	-809	-802	-961	-991	-993	-997	-958	-908	-798	-761	-1023	-1008
29 BPA SPINNING RESERVES 17/	-352	-293	-254	-253	-304	-385	-322	-298	-290	-291	-291	-416	-393	-351
30 HYDRO MAINTENANCE 18/	-4606	-4043	-3787	-3208	-2935	-2037	-1561	-2289	-2632	-2751	-2483	-2360	-2202	-3721
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31 NET RESOURCES	32887	30786	29201	29853	32558	36170	33801	32475	30833	29870	28448	31459	33964	32862
SURPLUS/DEFICITS														
32 FIRM SURPLUS/DEFICIT	4015	1898	646	-716	10	1122	-1938	-2527	-1535	-1058	-2521	2224	4699	3798
33 TOTAL SURPLUS/DEFICIT	3893	1776	543	-788	-120	1056	-2089	-2651	-1668	-1167	-2630	2107	4558	3673
34 EXTREME WEATHER ADJ. 19/	0	0	0	0	-3741	-4037	-4141	-4063	0	0	0	0	0	0
35 FIRM S/D W/EXT WEATHER ADJ.	4015	1898	646	-716	-3731	-2915	-6079	-6590	-1535	-1058	-2521	2224	4699	3798
36 TOTAL S/D W/EXT WTHR. ADJ.	3893	1776	543	-788	-3861	-2981	-6230	-6714	-1668	-1167	-2630	2107	4558	3673

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MEDIUM LOADS

1998 WHITE BOOK: 12/31/98

2003- 4 OPERATING YEAR

RUN DATE: 12/31/98

1937 WATER YEAR

PEAK IN MEGAWATTS

FIRM LOADS

	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL
1 SYSTEM FIRM LOADS 1/	26645	26648	26454	29011	31180	33424	34272	33651	31341	29612	29601	28006	27193	26819
2 EXPORTS 3/	4200	4200	4141	3676	3334	3338	3062	3040	3023	3028	3028	3028	3868	3931
3 FED DIVERSITY 4/	-1056	-1050	-1054	-1004	-953	-719	-746	-752	-960	-910	-908	-996	-996	-969
4 FIRM LOADS	29789	29797	29541	31683	33561	36044	36588	35939	33404	31731	31721	30038	30065	29781
NON-FIRM LOADS														
5 REGIONAL NON-FIRM LOADS 2/	111	111	103	77	126	51	153	124	129	116	116	117	154	123
6 TOTAL LOADS	29900	29908	29644	31760	33687	36094	36741	36063	33533	31847	31837	30155	30218	29905
HYDRO RESOURCES														
7 REGULATED HYDRO 5/	27359	27259	26592	26787	27493	29048	28974	28534	27999	27980	27936	27648	28498	27318
8 INDEPENDENT HYDRO 6/	1896	1882	1865	1840	1823	1798	1766	1866	1937	1980	1989	2050	2066	1942
9 SUS. PKNG. ADJUSTMENT 7/	-100	-2746	-2530	-2815	-2616	-1518	-4580	-4962	-4881	-4603	-5834	-1200	-2331	-875
10 TOTAL HYDRO	29155	26395	25927	25812	26700	29328	26160	25438	25055	25357	24091	28498	28233	28385
OTHER RESOURCES														
11 SMALL THERMAL & MISC 8/	79	79	73	76	171	168	174	172	75	80	72	48	18	75
12 COMBUSTION TURBINES 9/	1166	1166	1170	1176	1632	1634	1632	1630	1173	673	1173	1170	1166	1162
13 RENEWABLES 10/	82	82	82	83	84	86	87	86	86	85	85	34	82	82
14 COGENERATION 11/	775	775	775	775	775	755	775	775	775	775	775	306	775	755
15 IMPORTS 12/	1798	1798	1353	1810	2377	2312	2188	2215	1955	1571	1298	1701	1873	1790
16 CENTRALIA	1340	1340	1340	1340	1340	1340	1340	1340	1340	670	670	1340	1340	1340
17 JIM BRIDGER	707	707	707	707	707	707	707	707	353	706	707	706	707	707
18 COLSTRIP 1 & 2	431	431	419	425	433	427	440	435	424	216	417	202	408	422
19 BOARDMAN	531	531	531	531	531	531	531	531	531	531	531	0	531	531
20 VALMY	242	242	242	242	242	242	242	242	242	121	121	242	242	242
21 COLSTRIP 3	607	607	599	603	609	605	614	611	602	609	598	588	591	602
22 WNP 2	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162
23 COLSTRIP 4	740	740	740	740	740	740	740	740	740	740	0	740	740	740
24 FED RESOURCE ACQUIS 13/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 NON-UTILITY GENERATION 14/	1377	1377	1287	1185	1141	1126	1116	1145	1175	1332	1327	903	1301	1420
26 TOTAL RESOURCES	40192	37432	36407	36667	38644	41164	37908	37228	35688	34629	33027	37640	39169	39415

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MEDIUM LOADS

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2003- 4 OPERATING YEAR

RUN DATE: 12/31/98

1937 WATER YEAR

PEAK IN MEGAWATTS

	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL
RESERVES & MAINTENANCE	----	----	----	----	----	----	----	----	----	----	----	----	----	----
27 HYD SM THRM & MISC RES 15/	-1633	-1628	-1589	-1594	-1654	-1728	-1724	-1708	-1658	-1643	-1666	-1605	-1692	-1635
28 LARGE THERMAL RESERVES 16/	-999	-999	-940	-966	-1002	-979	-983	-988	-941	-804	-722	-928	-1013	-993
29 BPA SPINNING RESERVES 17/	-352	-293	-297	-293	-306	-387	-324	-300	-290	-290	-290	-416	-394	-352
30 HYDRO MAINTENANCE 18/	-4608	-4046	-3787	-3208	-2935	-2037	-1561	-2290	-2634	-2751	-2483	-2360	-2202	-3722
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31 NET RESOURCES	32600	30466	29793	30605	32747	36032	33315	31942	30165	29140	27866	32331	33867	32713
SURPLUS/DEFICITS														
32 FIRM SURPLUS/DEFICIT	2811	669	252	-1078	-814	-12	-3273	-3997	-3239	-2590	-3855	2293	3803	2932
33 TOTAL SURPLUS/DEFICIT	2700	558	149	-1155	-940	-62	-3426	-4121	-3368	-2707	-3972	2176	3649	2809
34 EXTREME WEATHER ADJ. 19/	0	0	0	0	-3830	-4127	-4236	-4161	0	0	0	0	0	0
35 FIRM S/D W/EXT WEATHER ADJ.	2811	669	252	-1078	-4644	-4139	-7509	-8158	-3239	-2590	-3855	2293	3803	2932
36 TOTAL S/D W/EXT WTHR. ADJ.	2700	558	149	-1155	-4770	-4189	-7663	-8282	-3368	-2707	-3972	2176	3649	2809

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MEDIUM LOADS														
1998 WHITE BOOK: 12/31/98														
2008- 9 OPERATING YEAR RUN DATE: 12/31/98														
1937 WATER YEAR														
PEAK IN MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL
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FIRM LOADS														
1 SYSTEM FIRM LOADS 1/	27700	27702	27509	30114	32261	34545	35487	34889	32526	30753	30741	29139	28307	27814
2 EXPORTS 3/	2689	2689	2593	2488	2430	2462	2473	2454	2428	2429	2429	2392	2368	2506
3 FED DIVERSITY 4/	-880	-875	-896	-851	-818	-619	-642	-648	-822	-777	-776	-822	-811	-785
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4 FIRM LOADS	29509	29516	29207	31751	33873	36388	37319	36695	34132	32405	32394	30709	29863	29535
NON-FIRM LOADS														
5 REGIONAL NON-FIRM LOADS 2/	140	140	102	71	133	84	153	100	150	72	72	94	134	115
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6 TOTAL LOADS	29648	29655	29309	31822	34006	36472	37472	36795	34282	32477	32467	30802	29998	29650
HYDRO RESOURCES														
7 REGULATED HYDRO 5/	27351	27251	26593	26788	27494	29058	28976	28536	28002	27982	27938	27650	28501	27321
8 INDEPENDENT HYDRO 6/	1887	1873	1866	1841	1824	1810	1768	1868	1938	1983	1992	2053	2068	1944
9 SUS. PKNG. ADJUSTMENT 7/	-100	-2746	-2442	-2815	-2510	-1433	-4461	-4896	-4881	-4603	-5834	-1200	-2295	-828
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10 TOTAL HYDRO	29138	26378	26017	25814	26808	29435	26283	25508	25059	25362	24096	28503	28274	28437
OTHER RESOURCES														
11 SMALL THERMAL & MISC 8/	74	74	74	76	171	175	176	173	77	81	74	50	18	76
12 COMBUSTION TURBINES 9/	1159	1159	1162	1168	1624	1626	1636	1634	1177	677	1177	1174	1170	1166
13 RENEWABLES 10/	82	82	82	83	84	86	87	86	86	85	85	34	82	82
14 COGENERATION 11/	730	730	730	730	730	710	730	730	730	730	730	261	730	710
15 IMPORTS 12/	1616	1616	1391	1286	1540	1463	1537	1562	1248	1186	1186	1598	1781	1667
16 CENTRALIA	1340	1340	1340	1340	1340	1340	1340	1340	1340	1340	1340	670	1340	1340
17 JIM BRIDGER	707	707	707	707	707	707	706	706	530	706	353	707	707	707
18 COLSTRIP 1 & 2	420	420	420	426	434	441	443	438	427	218	420	203	411	425
19 BOARDMAN	531	531	531	531	531	531	531	531	531	531	531	0	531	531
20 VALMY	242	242	242	242	242	242	242	242	242	121	121	242	242	242
21 COLSTRIP 3	600	600	600	604	610	615	616	613	604	611	600	590	593	603
22 WNP 2	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	0	0	1162	1162
23 COLSTRIP 4	740	740	740	740	740	740	740	740	740	740	0	740	740	740
24 FED RESOURCE ACQUIS 13/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 NON-UTILITY GENERATION 14/	1364	1364	1276	1174	1128	1114	1100	1127	1156	1314	1309	886	1283	1414
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26 TOTAL RESOURCES	39905	37144	36474	36083	37851	40387	37329	36592	35109	34865	32022	35658	39064	39302

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1937 WATER YEAR

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	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL
RESERVES & MAINTENANCE	----	----	----	----	----	----	----	----	----	----	----	----	----	----
27 HYD SM THRM & MISC RES 15/	-1631	-1626	-1588	-1593	-1653	-1729	-1723	-1707	-1658	-1642	-1665	-1605	-1692	-1635
28 LARGE THERMAL RESERVES 16/	-977	-977	-955	-948	-983	-962	-964	-969	-901	-886	-577	-636	-995	-972
29 BPA SPINNING RESERVES 17/	-352	-293	-299	-293	-309	-389	-327	-302	-290	-290	-250	-375	-395	-353
30 HYDRO MAINTENANCE 18/	-4607	-4045	-3787	-3208	-2935	-2037	-1561	-2290	-2634	-2751	-2483	-2360	-2202	-3722
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31 NET RESOURCES	32337	30204	29844	30041	31972	35270	32753	31324	29626	29295	27048	30682	33780	32620
SURPLUS/DEFICITS														
32 FIRM SURPLUS/DEFICIT	2829	688	637	-1711	-1901	-1119	-4566	-5371	-4506	-3110	-5347	-27	3916	3085
33 TOTAL SURPLUS/DEFICIT	2689	549	535	-1782	-2034	-1202	-4719	-5471	-4656	-3182	-5419	-121	3782	2970
34 EXTREME WEATHER ADJ. 19/	0	0	0	0	-3972	-4272	-4391	-4323	0	0	0	0	0	0
35 FIRM S/D W/EXT WEATHER ADJ.	2829	688	637	-1711	-5873	-5391	-8957	-9694	-4506	-3110	-5347	-27	3916	3085
36 TOTAL S/D W/EXT WTHR. ADJ.	2689	549	535	-1782	-6006	-5474	-9110	-9794	-4656	-3182	-5419	-121	3782	2970

REGIONAL FOOTNOTES

Regional Table 1

1. Firm loads for the region include the sum of the estimated firm loads of Federal agencies, public agencies, direct service industries (DSIs), investor-owned utilities (IOUs), and associated transmission losses. Peak loads represent non-coincidental capacity demands adjusted to account for Federal system diversity; they are based on the prediction of normal weather and have a 50-percent chance of being exceeded.
2. Total loads for the region include system firm loads plus Utah Power Company's interruptible load.
3. Regional exports include: BPA to Anaheim, capacity/energy exchange and capacity sale; BPA to Azusa, power exchange and capacity sale; BPA to Banning, power exchange and capacity sale; BPA to BART, power sale; BPA to Burbank, power sale and capacity/energy exchange; BPA to Colton, power exchange and capacity sale; BPA to Farmington, power sale; BPA to Federal agencies, power sale; BPA to Glendale, power sale and capacity/energy exchange; BPA to M-S-R, power sale; BPA to other entities, power sales; BPA to Palo Alto, capacity sale and seasonal energy; BPA to Pasadena, power sale, capacity/energy exchange and seasonal energy exchange; BPA to Riverside, capacity/energy exchange, capacity sale and diversity exchange; BPA to SCE, power sale, capacity/energy exchange, environmental storage, and option capacity; BPA to SCE Source, power sale; BPA to BC Hydro for Canadian Entitlement; and BPA's Northwest-Southwest Intertie losses; AVC to Modesto, power sale; AVC to West Kootenai, capacity sale; city of Idaho Falls to UPC for Gem State, IPC to Sierra Pacific, power sale and for Harney and Wells; IPC to UAMPS, power sale; IPC to the city of Washington, Utah, power sale; IPC to Truckee/Donner, power sale; PP&L to CDWR, power sale; PP&L to PP&L (Northern California), transfer to PP&L's Northern California load; PP&L to Redding, power sale; PP&L to SMUD, power sale; PP&L to SCE, power sale; PP&L to WAPA, power sale; PGE to Glendale, power sale and seasonal power exchange; PSE to PG&E, seasonal power exchange; SCL to NCPA, seasonal power exchange; Snohomish County PUD to SMUD, power sale; and TPU to WAPA, power sale.

Also included in exports are resources purchased by utilities outside the region. These include Longview Fibre to WAPA; 14.8 percent of the Boardman coal plant sold to San Diego Gas and Electric; and 10.2 percent of the Boardman coal plant sold to the city of Turlock, CA.

This analysis assumes that BPA's power sales and capacity/energy exchange agreements with the cities of Burbank, Glendale, Pasadena, Modesto, Santa Clara and Redding, and with SCE are in power sales mode throughout the study period.

4. Federal diversity is a percentage reduction applied to the Federal system non-coincidental peak utility allocation requirements. This is because all peaking electrical loads do not occur simultaneously throughout the region.
5. Regulated hydro includes those hydro dams where the firm energy generation of the dam is affected by the release of stored water from upstream reservoirs. Regulated hydro generation is determined by completing a hydro regulation study of the Pacific Northwest hydro system.
6. Independent hydro includes those hydro dams where no reservoirs exist upstream to release stored water and the firm energy is based on fixed historical flows. Hydro independents are not changed as a part of the hydro regulation study.
7. Sustained peaking adjustment is a percentage reduction applied to the Federal hydro system to meet a capacity load of 50 hours per week. This adjustment also includes reductions for Federal hydro maintenance, spinning reserves, forced outage reserves, and summer flow augmentation on the Lower Snake River and John Day hydro projects.
8. Small thermal and miscellaneous resources include: IPC: Energy Management Systems; MPC: regional Bird and Corette; PGE: Summit 1 and 2; PSE: Crystal Mountain and Shuffleton; SCL: Boundary; and TPU: Steam Plant 2.
9. Combustion turbines include: Clark: River Road (Cogentrix); IPC: Wood River; PGE: Bethel and Beaver; PSE: Whidbey Island, Whitehorn, Fredrickson, and Fredonia units 1 and 2; and WWP: Northeast units 1 and 2.
10. Renewables include: BPA: James River Wauna; Consumers: Coffin Butte; Emerald County PUD: Short Mountain; and WWP: Kettle Falls.
11. Cogeneration includes: EWEB: Weyerhaeuser's WEYCO Energy Center; Snohomish: County PUD Scott Paper; PGE: Coyote Springs; and PP&L: Hermiston. Longview Fibre output is sold outside the region to WAPA.
12. Regional imports include: Anaheim to BPA, exchange energy and peak replacement energy; Azusa to BPA, power exchange and peak replacement; Banning to BPA, power exchange and peak replacement; Basin Electric to BPA, power sale; BGP to BPA, supplemental energy; Burbank to BPA, exchange energy; Colton to BPA, power exchange and peak replacement; Glendale to BPA, exchange energy; other entities to BPA, power exchange; Pasadena to BPA, exchange energy, peak replacement energy, and seasonal replacement energy; PP&L (Wyoming Division) to BPA for Southern Idaho, power sale; Riverside to BPA, exchange energy, peak replacement energy, and seasonal exchange energy; Sierra Pacific to BPA for Harney and Wells; SCE to BPA, exchange energy, supplemental energy, environmental storage, option energy, and peak replacement; and PowerEx to BPA for ABC and Palo Alto, peak replacement energy; BC Hydro to PSE, power sale; BC Hydro to SCL, for Ross; Glendale to PGE, seasonal power exchange; NCPA to SCL, seasonal power exchange; PG&E to PSE, seasonal power exchange; PowerEx to Benton REA, power sale; PowerEx to Clearwater Power Company, power sale; PowerEx to EWEB, power sale; SCE to PP&L, power sale; and West Kootenai to AVC, peak replacement energy.

In addition, imports include the following intra-company transfers: PP&L (Wyoming) to PP&L, and Utah Power Company.

This analysis assumes that BPA's power sales and capacity/energy exchange agreements with the cities of Burbank, Glendale, Pasadena, Modesto, Santa Clara and Redding and with SCE are in power sale mode, so exchanges and supplemental energy with these utilities are zero through the study horizon.

13. Resource acquisitions are resources BPA has identified and contracted for future purchase. When new Federal resource acquisitions are contracted for and/or on-line, they will be included in the loads and resources balance.
14. Non-utility generation (NUG) resources include generation provided to utilities by independent power producers and resources included under the Public Utility Regulatory Policies Act (PURPA). This study included 180 Individual NUGs.
15. Hydro, small thermal and miscellaneous resources, and combustion turbine reserve requirements are estimated at 5 percent of the capacity of these resources for all utilities in the region.
16. Large thermal reserve requirements are estimated at 15 percent of the total capacity of the Pacific Power and Light thermal import into the region plus the large thermal resources owned by utilities in the region.
17. Federal spinning reserves equal the reserve generating capacity maintained to provide a regulating margin for the automatic generation and frequency control of power generation.
18. Hydro maintenance is the sum of individual Federal system, public agency, and IOU hydro project maintenance, based on the average of the 1983-84 through 1988-89 schedules submitted to the Northwest Power Pool.
19. Extreme weather adjustment is the sum of all utility load responses with Pacific Northwest cold weather and has a 5 percent chance of being exceeded in the months of November through February.

SUMMARY OF FEDERAL SYSTEM LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS

1998 WHITE BOOK: 12/31/98

1999-0 OPERATING YEAR

RUN DATE: 12/31/98

1937 WATER YEAR

PEAK IN MEGAWATTS

	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL
	----	----	----	----	----	----	----	----	----	----	----	----	----	----

LOADS

1 FEDERAL AGENCIES	196	196	186	197	205	235	219	227	215	199	199	189	190	192
2 FEDERAL GPU TRANS LOSSES	72	83	107	144	158	184	158	140	118	117	105	88	72	66
3 FEDERAL NGP TRANS LOSSES	146	146	153	172	205	234	252	250	218	197	197	183	156	149
4 USBR	199	199	157	76	7	4	4	3	8	100	100	170	198	204
5 DSI FIRM LOAD	2494	2494	1953	1917	2096	2499	1587	1215	1057	1057	1057	2165	2165	2497
6 DSI FIRM LOSSES	72	72	59	61	73	92	62	46	38	36	36	71	65	72
7 SM & NON GEN PUB PURCH 1/	3117	3117	3095	3258	3616	3834	4050	4127	3708	3582	3582	3269	3068	3046
8 FIRM SYSTEM LOAD	6296	6307	5710	5825	6360	7082	6332	6008	5362	5288	5276	6135	5914	6226

TRANSFERS OUT

9 EXPORTS 2/	2259	2259	2245	2202	1846	1846	1847	1848	1846	1999	2050	2164	2470	2483
10 CONTRACTS OUT 3/	2248	2248	2308	2670	3035	3269	4015	3937	3706	3222	3222	3267	3274	2540
11 CSPE TO WEST GROUP UTIL 4/	200	200	200	200	200	200	200	200	200	192	192	192	192	192
12 GEN PUB AGEN PSC PURCH 5/	1271	1223	1290	1701	1903	2131	2196	2270	1907	1680	1676	1637	1235	1062
13 IOU PSC PURCHASE 6/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 FED DIVERSITY 7/	-942	-938	-954	-1001	-932	-706	-776	-781	-1007	-919	-917	-1059	-1064	-942
15 FIRM LOADS	11331	11299	10799	11597	12412	13822	13814	13482	12014	11461	11498	12336	12021	11561

HYDRO RESOURCES

16 REGULATED HYDRO	16563	16604	16690	16785	17094	18551	18570	18443	17958	17835	17705	17692	17890	16598
17 INDEPENDENT HYDRO	707	719	701	716	691	650	613	741	800	817	816	846	847	725
18 SUS. PKNG. ADJUSTMENT 8/	-100	-2714	-2649	-2792	-2716	-1597	-4683	-5033	-4863	-4578	-5811	-1200	-2359	-928
19 NON-FED CER(CSPE) TO BPA 9/	46	46	46	46	46	46	46	46	46	43	43	43	43	43
20 NON-FED CER(CAN) TO BPA 10/	155	142	144	148	144	143	148	144	143	142	154	141	142	147
21 RESTORATION 11/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 TOTAL HYDRO	17371	14797	14932	14903	15259	17793	14694	14341	14084	14259	12907	17522	16563	16585

OTHER RESOURCES

23 SMALL THERMAL & MISC	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 COMBUSTION TURBINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 RENEWABLES 12/	27	27	27	28	29	31	32	31	31	30	30	27	27	27
26 COGENERATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 IMPORTS 13/	310	310	339	153	213	267	471	427	435	438	165	75	93	109
28 CONTRACTS IN 14/	25	25	25	25	25	25	50	50	50	50	50	50	50	50
29 LARGE THERMAL 15/	1162	1162	0	0	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162
30 NON-UTILITY GENERATION 16/	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31 RESOURCE ACQUISITIONS 17/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 TOTAL RESOURCES	18896	16322	15324	15110	16689	19279	16410	16012	15763	15940	14315	18837	17896	17934

SUMMARY OF FEDERAL SYSTEM LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS														
1998 WHITE BOOK: 12/31/98														
1999-0 OPERATING YEAR RUN DATE: 12/31/98														
1937 WATER YEAR														
PEAK IN MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL
RESERVES & MAINTENANCE	----	----	----	----	----	----	----	----	----	----	----	----	----	----
33 HYD SM THRM & MISC RES 18/	-865	-867	-871	-876	-891	-962	-961	-961	-939	-934	-927	-928	-938	-867
34 LARGE THERMAL RESERVES 19/	-174	-174	0	0	-174	-174	-174	-174	-174	-174	-174	-174	-174	-174
35 SPINNING RESERVES 20/	-352	-293	-254	-253	-304	-385	-322	-298	-290	-291	-291	-416	-393	-351
36 FEDERAL HYDRO MAINT 21/	-3263	-2761	-2770	-2752	-2705	-1866	-1408	-1883	-1915	-2061	-1805	-1756	-1635	-2785
	----	----	----	----	----	----	----	----	----	----	----	----	----	----
37 NET RESOURCES	14242	12226	11429	11229	12615	15891	13546	12695	12444	12479	11118	15562	14755	13757
SURPLUS/DEFICITS														
38 FIRM SURPLUS/DEFICIT	2911	927	630	-368	203	2069	-268	-786	430	1018	-380	3227	2735	2196
39 EXTREME WEATHER ADJ. 22/	0	0	0	0	-4	-5	-4	-5	0	0	0	0	0	0
40 FIRM S/D W/EXT WEATHER ADJ.	2911	927	630	-368	199	2064	-272	-791	430	1018	-380	3227	2735	2196
41 POSS FED EXT WTHR. OBLG 23/	0	0	0	0	-1466	-1626	-1646	-1652	0	0	0	0	0	0
42 FIRM S/D W/EXT WTHR. OBLIG	2911	927	630	-368	-1268	439	-1918	-2443	430	1018	-380	3227	2735	2196

NOTE: 1. THE FOLLOWING CONTRACTS ARE SHOWN AS POWER SALES THROUGH THE STUDY HORIZON.

A. BPA TO BURBANK: PS & C/N/X C. BPA TO PASADENA: PS & C/N/X

B. BPA TO GLENDALE: PS & C/N/X D. BPA TO SCE: PS & C/N/X

2. BPA TO PSP&L: PS & SPX CONVERTS TO A SEASONAL POWER EXCHANGE OY 2002.

3. SCE TO BPA: OPTION ENERGY IS INCLUDED THROUGH OY 2004.

4. BPA TO SCE: OPTION CAPACITY IS INCLUDED THROUGH OY 2004.

5. THE FOLLOWING CONTRACTS ARE RESOURCE OPTIONS AND NOT INCLUDED THROUGH THE STUDY HORIZON.

A. BGP TO BPA: SUPPLEMENTAL ENERGY B. SCE TO BPA: SUPPLEMENTAL ENERGY

SUMMARY OF FEDERAL SYSTEM LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS

1998 WHITE BOOK: 12/31/98

2003- 4 OPERATING YEAR

RUN DATE: 12/31/98

1937 WATER YEAR

PEAK IN MEGAWATTS

	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL
LOADS	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1 FEDERAL AGENCIES	200	200	190	201	210	241	224	232	220	204	204	194	195	196
2 FEDERAL GPU TRANS LOSSES	37	40	45	78	82	85	77	59	57	56	45	44	41	38
3 FEDERAL NGP TRANS LOSSES	151	151	157	178	210	239	257	256	223	203	203	188	160	153
4 USBR	200	200	158	76	7	4	4	3	9	100	100	170	198	205
5 DSI FIRM LOAD	2496	2496	1970	2086	2096	2498	1930	1389	1216	1056	1056	2166	2166	2474
6 DSI FIRM LOSSES	72	72	59	67	73	92	75	53	44	36	36	72	65	72
7 SM & NON GEN PUB PURCH 1/	3562	3562	3565	3250	3696	3910	4202	4285	3866	3745	3745	3284	3091	3053
8 FIRM SYSTEM LOAD	6718	6721	6144	5936	6374	7069	6769	6277	5635	5400	5389	6118	5916	6191
TRANSFERS OUT														
9 EXPORTS 2/	2864	2864	2858	2803	2461	2470	2266	2270	2257	2235	2235	2357	2638	2653
10 CONTRACTS OUT 3/	2554	2554	2434	2537	2894	3058	3097	3067	2829	2759	2759	2635	2628	2637
11 CSPE TO WEST GROUP UTIL 4/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 GEN PUB AGEN PSC PURCH 5/	1542	1499	1641	2038	2335	2619	2679	2728	2306	2037	2034	1869	1469	1297
13 IOU PSC PURCHASE 6/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 FED DIVERSITY 7/	-1056	-1050	-1054	-1004	-953	-719	-746	-752	-960	-910	-908	-996	-996	-969
15 FIRM LOADS	12622	12588	12023	12311	13111	14498	14065	13590	12067	11521	11508	11983	11656	11810
HYDRO RESOURCES														
16 REGULATED HYDRO	16563	16604	16690	16785	17094	18551	18570	18443	17958	17835	17705	17692	17890	16598
17 INDEPENDENT HYDRO	740	752	733	740	711	673	644	760	819	842	841	879	880	758
18 SUS. PKNG. ADJUSTMENT 8/	-100	-2746	-2530	-2815	-2616	-1518	-4580	-4962	-4881	-4603	-5834	-1200	-2331	-875
19 NON-FED CER(CSPE) TO BPA 9/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 NON-FED CER(CAN) TO BPA 10/	248	264	248	246	258	246	246	259	246	259	259	268	259	258
21 RESTORATION 11/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 TOTAL HYDRO	17451	14874	15141	14956	15447	17952	14880	14500	14142	14333	12971	17639	16698	16739
OTHER RESOURCES														
23 SMALL THERMAL & MISC	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 COMBUSTION TURBINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 RENEWABLES 12/	27	27	27	28	29	31	32	31	31	30	30	27	27	27
26 COGENERATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 IMPORTS 13/	110	110	139	153	213	267	471	427	435	438	165	75	93	109
28 CONTRACTS IN 14/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 LARGE THERMAL 15/	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162
30 NON-UTILITY GENERATION 16/	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31 RESOURCE ACQUISITIONS 17/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 TOTAL RESOURCES	18751	16174	16470	16300	16852	19413	16546	16121	15771	15964	14329	18904	17981	18038

SUMMARY OF FEDERAL SYSTEM LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS														
1998 WHITE BOOK: 12/31/98														
2003- 4 OPERATING YEAR RUN DATE: 12/31/98														
1937 WATER YEAR														
PEAK IN MEGAWATTS	AUG	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL
	1-15	16-31								1-15	16-30			
	----	----	----	----	----	----	----	----	----	----	----	----	----	----
RESERVES & MAINTENANCE														
33 HYD SM THRM & MISC RES 18/	-866	-869	-872	-878	-892	-963	-962	-962	-940	-935	-929	-930	-940	-869
34 LARGE THERMAL RESERVES 19/	-174	-174	-174	-174	-174	-174	-174	-174	-174	-174	-174	-174	-174	-174
35 SPINNING RESERVES 20/	-352	-293	-297	-293	-306	-387	-324	-300	-290	-290	-290	-416	-394	-352
36 FEDERAL HYDRO MAINT 21/	-3263	-2761	-2770	-2752	-2705	-1866	-1408	-1883	-1915	-2061	-1805	-1756	-1635	-2785
	----	----	----	----	----	----	----	----	----	----	----	----	----	----
37 NET RESOURCES	14096	12077	12357	12203	12775	16023	13678	12801	12451	12503	11130	15628	14837	13858
SURPLUS/DEFICITS														
38 FIRM SURPLUS/DEFICIT	1474	-510	334	-107	-337	1525	-387	-789	385	982	-378	3644	3182	2049
39 EXTREME WEATHER ADJ. 22/	0	0	0	0	-4	-5	-5	-5	0	0	0	0	0	0
40 FIRM S/D W/EXT WEATHER ADJ.	1474	-510	334	-107	-341	1520	-392	-794	385	982	-378	3644	3182	2049
41 POSS FED EXT WTHR. OBLG 23/	0	0	0	0	-1422	-1492	-1357	-1387	0	0	0	0	0	0
42 FIRM S/D W/EXT WTHR. OBLIG	1474	-510	334	-107	-1763	28	-1749	-2181	385	982	-378	3644	3182	2049

NOTE: 1. THE FOLLOWING CONTRACTS ARE SHOWN AS POWER SALES THROUGH THE STUDY HORIZON.

A. BPA TO BURBANK: PS & C/N/X C. BPA TO PASADENA: PS & C/N/X

B. BPA TO GLENDALE: PS & C/N/X D. BPA TO SCE: PS & C/N/X

2. BPA TO PSP&L: PS & SPX CONVERTS TO A SEASONAL POWER EXCHANGE OY 2002.

3. SCE TO BPA: OPTION ENERGY IS INCLUDED THROUGH OY 2004.

4. BPA TO SCE: OPTION CAPACITY IS INCLUDED THROUGH OY 2004.

5. THE FOLLOWING CONTRACTS ARE RESOURCE OPTIONS AND NOT INCLUDED THROUGH THE STUDY HORIZON.

A. BGP TO BPA: SUPPLEMENTAL ENERGY B. SCE TO BPA: SUPPLEMENTAL ENERGY

SUMMARY OF FEDERAL SYSTEM LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS

1998 WHITE BOOK: 12/31/98

2008- 9 OPERATING YEAR

RUN DATE: 12/31/98

1937 WATER YEAR

PEAK IN MEGAWATTS

	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL
LOADS	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1 FEDERAL AGENCIES	206	206	196	207	216	249	231	240	227	210	210	200	200	202
2 FEDERAL GPU TRANS LOSSES	33	35	40	72	76	78	71	53	51	51	39	38	35	33
3 FEDERAL NGP TRANS LOSSES	156	156	163	185	217	245	263	263	230	210	210	195	167	159
4 USBR	201	201	158	76	7	4	4	3	9	101	101	171	199	205
5 DSI FIRM LOAD	2496	2496	1970	2086	2096	2498	1930	1389	1216	1056	1056	2166	2166	2474
6 DSI FIRM LOSSES	72	72	59	67	73	92	75	53	44	36	36	72	65	72
7 SM & NON GEN PUB PURCH 1/	3562	3562	3565	3250	3696	3910	4202	4285	3866	3745	3745	3284	3091	3053
8 FIRM SYSTEM LOAD	6726	6728	6151	5943	6381	7076	6776	6286	5643	5409	5397	6126	5923	6198
TRANSFERS OUT														
9 EXPORTS 2/	2167	2167	2158	2131	2088	2097	2101	2105	2089	2062	2062	2147	1871	1889
10 CONTRACTS OUT 3/	1237	1237	1248	1297	1587	1674	1654	1628	1491	1469	1469	1227	1242	1256
11 CSPE TO WEST GROUP UTIL 4/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 GEN PUB AGEN PSC PURCH 5/	1542	1499	1641	2038	2335	2619	2679	2728	2306	2037	2034	1869	1469	1297
13 IOU PSC PURCHASE 6/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 FED DIVERSITY 7/	-800	-875	-896	-851	-818	-619	-642	-648	-822	-777	-776	-822	-811	-785
15 FIRM LOADS	10792	10756	10302	10558	11573	12848	12568	12099	10706	10200	10186	10547	9694	9855
HYDRO RESOURCES														
16 REGULATED HYDRO	16563	16604	16690	16785	17094	18551	18570	18443	17958	17835	17705	17692	17890	16598
17 INDEPENDENT HYDRO	740	752	733	740	711	673	644	760	819	842	841	879	880	758
18 SUS. PKNG. ADJUSTMENT 8/	-100	-2746	-2442	-2815	-2510	-1433	-4461	-4896	-4881	-4603	-5834	-1200	-2295	-828
19 NON-FED CER(CSPE) TO BPA 9/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 NON-FED CER(CAN) TO BPA 10/	248	264	248	246	258	246	246	259	246	259	259	268	259	258
21 RESTORATION 11/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 TOTAL HYDRO	17451	14874	15229	14956	15553	18037	14999	14566	14142	14333	12971	17639	16734	16786
OTHER RESOURCES														
23 SMALL THERMAL & MISC	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 COMBUSTION TURBINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 RENEWABLES 12/	27	27	27	28	29	31	32	31	31	30	30	27	27	27
26 COGENERATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 IMPORTS 13/	88	88	117	153	206	260	234	190	162	165	165	75	93	109
28 CONTRACTS IN 14/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 LARGE THERMAL 15/	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162
30 NON-UTILITY GENERATION 16/	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31 RESOURCE ACQUISITIONS 17/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 TOTAL RESOURCES	18729	16152	16536	16300	16951	19491	16428	15950	15498	15691	13167	17742	18017	18085

SUMMARY OF FEDERAL SYSTEM LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS														
1998 WHITE BOOK: 12/31/98														
2008- 9 OPERATING YEAR RUN DATE: 12/31/98														
1937 WATER YEAR														
PEAK IN MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL
RESERVES & MAINTENANCE	----	----	----	----	----	----	----	----	----	----	----	----	----	----
33 HYD SM THRM & MISC RES 18/	-866	-869	-872	-878	-892	-963	-962	-962	-940	-935	-929	-930	-940	-869
34 LARGE THERMAL RESERVES 19/	-174	-174	-174	-174	-174	-174	-174	-174	-174	-174	0	0	-174	-174
35 SPINNING RESERVES 20/	-352	-293	-299	-293	-309	-389	-327	-302	-290	-290	-250	-375	-395	-353
36 FEDERAL HYDRO MAINT 21/	-3263	-2761	-2770	-2752	-2705	-1866	-1408	-1883	-1915	-2061	-1805	-1756	-1635	-2785
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37 NET RESOURCES	14074	12055	12421	12203	12871	16098	13557	12629	12178	12230	10183	14680	14873	13904
SURPLUS/DEFICITS														
38 FIRM SURPLUS/DEFICIT	3282	1299	2119	1645	1298	3251	989	530	1472	2031	-3	4134	5179	4049
39 EXTREME WEATHER ADJ. 22/	0	0	0	0	-4	-5	-5	-5	0	0	0	0	0	0
40 FIRM S/D W/EXT WEATHER ADJ.	3282	1299	2119	1645	1294	3246	984	525	1472	2031	-3	4134	5179	4049
41 POSS FED EXT WTHR. OBLG 23/	0	0	0	0	-1600	-1700	-1741	-1754	0	0	0	0	0	0
42 FIRM S/D W/EXT WTHR. OBLIG	3282	1299	2119	1645	-306	1546	-758	-1229	1472	2031	-3	4134	5179	4049

NOTE: 1. THE FOLLOWING CONTRACTS ARE SHOWN AS POWER SALES THROUGH THE STUDY HORIZON.

A. BPA TO BURBANK: PS & C/N/X C. BPA TO PASADENA: PS & C/N/X

B. BPA TO GLENDALE: PS & C/N/X D. BPA TO SCE: PS & C/N/X

2. BPA TO PSP&L: PS & SPX CONVERTS TO A SEASONAL POWER EXCHANGE OY 2002.

3. SCE TO BPA: OPTION ENERGY IS INCLUDED THROUGH OY 2004.

4. BPA TO SCE: OPTION CAPACITY IS INCLUDED THROUGH OY 2004.

5. THE FOLLOWING CONTRACTS ARE RESOURCE OPTIONS AND NOT INCLUDED THROUGH THE STUDY HORIZON.

A. BGP TO BPA: SUPPLEMENTAL ENERGY B. SCE TO BPA: SUPPLEMENTAL ENERGY

FEDERAL SYSTEM FOOTNOTES

Federal Table 2

1. BPA's small and nongenerating public agencies' purchases are requirements these agencies place on BPA under their power sales contracts and BPA's partnership program. BPA's obligation is each agency's net firm load requirement not served by its own dedicated resources. These contracts expire between June 30, 2001, and September 30, 2001; however, they are assumed to remain at the OY 2001 level through the study period.
2. BPA's exports include: BPA to Anaheim, capacity/energy exchange and capacity sale; BPA to Azusa, power exchange and capacity sale; BPA to Banning, power exchange and capacity sale; BPA to BART, power sale; BPA to Burbank, power sale and capacity/energy exchange; BPA to Colton, power exchange and capacity sale; BPA to Farmington, power sale; BPA to Federal agencies, power sale; BPA to Glendale, power sale and capacity/energy exchange; BPA to M-S-R, power sale; BPA to other entities, power sales; BPA to Palo Alto, capacity sale and seasonal energy exchange; BPA to Pasadena, power sale, capacity/energy exchange and seasonal energy exchange; BPA to Riverside, capacity/energy exchange, capacity sale and diversity exchange; BPA to SCE, power sale, capacity/energy exchange, environmental storage, and option capacity; BPA to SCE Source, power sale; BPA to BC Hydro for Canadian Entitlement; and BPA's Northwest-Southwest Intertie losses.
3. BPA's contracts out include: BPA to AVC, power sale, supplemental and entitlement capacity, deferred power exchange and WNP-3 settlement; BPA to Bandon, power sale; BPA to Big Bend Electric Cooperative, summer seasonal product; BPA to Central Electric Cooperative, summer seasonal product; BPA to Chelan County PUD, supplemental and entitlement capacity sale; BPA to the city of Ashland, power sale; BPA to the city of Idaho Falls, power sale; BPA to Colockum, supplemental and entitlement capacity; BPA to Columbia Basin Electric Cooperative, summer seasonal product; BPA to Columbia River PUD, power sale; BPA to Columbia Rural Electric Association, summer seasonal product; BPA to Cowlitz County PUD, supplemental and entitlement capacity and power sale; BPA to Douglas County PUD, supplemental and entitlement capacity and power sale; BPA to Eugene Water and Electric Board, supplemental and entitlement capacity and power sale; BPA to city of Forest Grove, supplemental and entitlement capacity and power sale; BPA to Grant County PUD, supplemental and entitlement capacity and power sale; BPA to Harney Electric Cooperative, summer seasonal product; BPA to Idaho Power Company for Harney and Wells; BPA to Inland Power and Light, summer seasonal product; BPA to Kittitas County PUD, supplemental and entitlement capacity; BPA to Lewis County PUD, power sale; BPA to Lower Valley, power sale; BPA to Mason County PUD #3, power sale; BPA to city of McMinnville, supplemental and entitlement capacity and power sale; BPA to Midstate Electric Cooperative, summer seasonal product; BPA to Milton-Freewater, power sale; BPA to Modern Electric Cooperative, power sale; BPA to Monmouth, power sale; BPA to Montana Power Company, capacity/energy exchange; BPA to Nespelem Valley Electric Cooperative, summer seasonal product; BPA to Northern Wasco Electric Cooperative, power sale; BPA to Okanogan, supplemental and entitlement capacity and summer seasonal product; BPA to other entities, power sales; BPA to small and nongenerating public agencies, summer seasonal product and power sales; BPA to PP&L, capacity sale, supplemental and

entitlement capacity, Southern Idaho exchange, and Centralia standby; BPA to PGE, capacity sale, supplemental and entitlement capacity, and power sale; BPA to PSE, Baker Head loss, power sale, supplemental and entitlement capacity and WNP-3 settlement; BPA to Ravalli Electric Cooperative, power sale; BPA to Richland, Ormet power sale; BPA to Salem Electric Cooperative, green power sale; BPA to SCL, supplemental and entitlement capacity sale; BPA to Snohomish County PUD, power sale; BPA to Springfield Utility Board, power sale; BPA to Surprise Valley, summer seasonal product; BPA to TPU, supplemental and entitlement capacity and power sale; BPA to Tillamook, power sale; BPA to United Electric Cooperative, power sale; BPA to Umatilla Electric Cooperative, summer seasonal product; BPA to Vigilante Electric Cooperative, summer seasonal product; BPA to Wasco Electric Cooperative, summer seasonal product; and BPA to Western Oregon Cooperative, power sale.

4. Columbia Storage Power Exchange (CSPE) is the sale of the Canadian share of downstream benefits under the Columbia River Treaty with Canada to a group of Northwest utilities, expiring April 1, 2003.
5. BPA's generating public agencies' purchases are requirements that these agencies place on BPA under their power sales contracts and BPA's partnership program. BPA's obligation is each agency's net firm load requirement not served by its own dedicated resources. These contracts expire between June 30, 2001, and September 30, 2001; however, they are assumed to remain at the OY 2001 level through the study period.
6. No investor-owned utility customers are purchasing power under the 1981 power sales contract.
7. Federal diversity is a percentage reduction applied to the Federal system non-coincidental peak utility requirements. This is due to the fact that all peaking electrical loads do not occur simultaneously throughout the region.
8. Sustained peaking adjustment is a percentage reduction applied to the Federal hydrosystem to meet a capacity load of 50 hours per week. This adjustment also includes reductions for Federal hydro maintenance, spinning reserves, forced outage reserves, and summer flow augmentation on the Snake River and John Day hydro projects.
9. Canadian Entitlement Return non-Federal to the Columbia River Storage Exchange (CSPE) reflects the public agencies' and IOUs' obligation of Canadian Entitlement allocation to the Northwest entities of the CSPE, which expires March 31, 2003.
10. Canadian Entitlement Return non-Federal to Canada reflects the Federal system, public agencies' and IOUs' obligation of Canadian Entitlement allocation to Canada, which began April 1, 1998.
11. Restoration adjustments for the losses and gains of the hydro system due to Canadian storage under the terms of the Pacific Northwest Coordination Agreement. It is an obligation to those utilities that gained generation from the addition of Canadian storage, and a resource gain to utilities that lost generation from Canadian storage.
12. Federal renewable resources include: James River Wauna.
13. BPA's imports include: Anaheim to BPA, exchange energy and peak replacement energy; Azusa to BPA, power exchange and peak replacement; Banning to BPA, power exchange and peak replacement; BGP to BPA, supplemental energy; Burbank to BPA, exchange energy; Colton to BPA, power exchange and peak replacement; Glendale to BPA, exchange energy; other entities to BPA, power exchange; Pasadena to BPA, exchange energy, peak replacement energy, and seasonal replacement energy; PP&L (Wyoming Division) to BPA for Southern Idaho, power sale; Riverside to BPA, exchange energy, peak replacement energy, diversity exchange energy, and seasonal exchange energy; Sierra to BPA for Harney and Wells; SCE to BPA, exchange energy, supplemental energy, environmental storage, option energy, peak replacement and power sale; and PowerEx to BPA for ABC and Palo Alto, peak replacement energy.

14. Federal contracts in include: AVC to BPA, supplemental entitlement peak replacement and WNP-3 settlement; Chelan County PUD to BPA, supplemental entitlement peak replacement; Colockum to BPA, supplemental entitlement peak replacement; Cowlitz County PUD to BPA, supplemental entitlement peak replacement; Douglas County PUD to BPA, supplemental entitlement peak replacement; Eugene Water and Electric Board to BPA, supplemental entitlement peak replacement; Grant County PUD to BPA, supplemental entitlement peak replacement; city of Forest Grove to BPA, supplemental entitlement peak replacement; Kittitas County PUD to BPA, supplemental entitlement peak replacement; city of McMinnville to BPA, supplemental entitlement peak replacement; MPC to BPA, exchange energy and peak replacement; Okanogan County PUD to BPA, supplemental entitlement peak replacement; other entities to BPA, supplemental entitlement peak replacement and power sale; PP&L to BPA, peak replacement and supplemental entitlement peak replacement; PGE to BPA, peak replacement and supplemental entitlement peak replacement; PSE to BPA, supplemental entitlement peak replacement and WNP-3 settlement; SCL to BPA, supplemental entitlement peak replacement; and TPU to BPA, supplemental entitlement peak replacement.
15. Federal large thermal includes the generation from WNP-2, operated by WPPSS.
16. Non-utility generation (NUG) resources include generation provided to BPA by independent power producers and resources included under the Public Utility Regulatory Policies Act (PURPA).
17. Resource acquisitions are resources BPA has identified and contracted for future purchase. When new Federal resource acquisitions are contracted for and/or on-line, they will be included in the loads and resources balance.
18. Hydro, small thermal and miscellaneous resources, and combustion turbine reserve requirements are estimated at 5 percent of the Federal capacity of these resources.
19. Large thermal reserve requirements are estimated at 15 percent of the WNP-2 nuclear project.
20. Federal spinning reserve is the reserve generating capacity maintained to provide a regulating margin for the automatic generation and frequency control of power generation.
21. Hydro maintenance is the sum of all Federal hydro project maintenance based on the mean of the 1983-84 through 1988-89 schedules submitted to the Northwest Power Pool.

TABLE 3: TOTAL PUBLIC AGENCIES
SUMMARY OF PUBLIC AGENCIES LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS														
1998 WHITE BOOK: 12/31/98														
1999-0 OPERATING YEAR RUN DATE: 12/31/98														
1937 WATER YEAR	AUG		SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL
PEAK IN MEGAWATTS	1-15	16-31								1-15	16-30			
LOADS														
1 SYSTEM LOADS	9320	9320	9588	10886	12044	12773	13089	13068	12133	11391	11391	10600	9733	9386
2 EXPORTS 1/	157	157	170	129	100	67	67	67	67	67	67	67	155	156
3 CONTRACTS OUT 2/	365	365	293	312	214	217	217	215	214	214	214	212	261	261
4 TOTAL LOADS	9842	9842	10051	11327	12358	13057	13373	13350	12414	11672	11672	10879	10149	9803
RESOURCES														
5 REGULATED HYDRO	4120	4079	3507	3659	4018	3948	3914	3849	3700	3700	3740	3719	4117	4157
6 INDEPENDENT HYDRO	192	195	217	223	230	222	223	229	241	234	233	237	236	206
7 CAN. ENT. RETURN (CSPE) 3/	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-17
8 CAN. ENT. RETURN (CANADA)4/	-59	-56	-57	-59	-57	-57	-59	-58	-57	-56	-59	-57	-56	-59
9 RESTORATION 5/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 TOTAL HYDRO	4237	4202	3651	3807	4175	4097	4062	4004	3868	3862	3898	3883	4281	4287
11 SMALL THERMAL & MISC 6/	18	18	18	18	18	18	18	18	18	18	18	1	18	18
12 COMBUSTION TURBINES 7/	231	231	235	240	242	245	252	250	247	247	247	244	240	236
13 CSPE PURCHASE 8/	100	100	100	100	100	100	100	100	100	96	96	96	96	96
14 RENEWABLES 9/	6	6	6	6	6	6	6	6	6	6	6	6	6	6
15 COGENERATION 10/	20	20	20	20	20	0	20	20	20	20	20	20	20	0
16 IMPORTS 11/	271	271	273	279	271	327	355	393	397	293	293	271	268	269
17 CONTRACTS IN 12/	1128	1128	1122	1179	1278	1427	1508	1485	1419	1317	1317	1523	1558	1580
18 LARGE THERMAL 13/	375	375	375	375	375	375	375	375	375	375	375	188	375	375
19 NON-UTILITY GENERATION 14/	237	237	169	94	48	48	49	52	80	195	195	285	298	272
20 TOTAL RESOURCES	6623	6588	5969	6118	6533	6643	6745	6703	6530	6429	6465	6517	7160	7139
21 HYD SM THRM & MISC RES 15/	-241	-239	-208	-213	-229	-224	-224	-221	-215	-221	-223	-225	-246	-244
22 LARGE THERMAL RESERVES 16/	-56	-56	-56	-56	-56	-56	-56	-56	-56	-56	-56	-28	-56	-56
23 PUBLIC HYDRO MAINT 17/	-578	-538	-482	-114	-81	-59	-74	-101	-212	-242	-245	-240	-249	-254
24 NET RESOURCES	5748	5755	5223	5735	6167	6303	6390	6325	6047	5911	5941	6023	6609	6585
25 SURPLUS/DEFICIT	-4094	-4087	-4828	-5592	-6191	-6754	-6983	-7025	-6367	-5761	-5731	-4856	-3540	-3218
26 BPA PSC DIVERSIFICATION 18/	1141	1141	1242	1440	1800	1891	1849	1762	1518	1567	1567	1332	1154	1078
27 DEDICATED RESOURCES 19/	5677	5639	5091	5264	5675	5718	5726	5679	5492	5423	5460	5663	6206	6170
28 BPA PWR SALE CNTRCT PUR 20/	4388	4340	4385	4960	5519	5965	6246	6396	5615	5261	5258	4906	4303	4108
29 SURPLUS/DEFICIT W/PURCHASE	297	256	-440	-629	-669	-785	-734	-626	-748	-497	-470	53	766	893
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	-2016	-2142	-2186	-2187	0	0	0	0	0	0
31 SURPLUS/DEFICIT W/EXTRM WX	297	256	-440	-629	-2685	-2928	-2920	-2813	-748	-497	-470	53	766	893
32 POSSIBLE OBLIG ON BPA 22/	0	0	0	0	1466	1626	1646	1652	0	0	0	0	0	0
33 SURPLUS/DEFICIT AFTR BPA OB	297	256	-440	-629	-1219	-1302	-1273	-1161	-748	-497	-470	53	766	893

TABLE 3: TOTAL PUBLIC AGENCIES
SUMMARY OF PUBLIC AGENCIES LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS														
1998 WHITE BOOK: 12/31/98														
2003- 4 OPERATING YEAR														
RUN DATE: 12/31/98														
1937 WATER YEAR														
PEAK IN MEGAWATTS	AUG	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL
	1-15	16-31								1-15	16-30			
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LOADS														
1 SYSTEM LOADS	9627	9627	9921	11241	12357	13064	13369	13386	12473	11744	11744	10959	10066	9695
2 EXPORTS 1/	157	157	170	129	100	67	67	67	67	67	67	67	155	156
3 CONTRACTS OUT 2/	316	316	244	264	167	173	172	169	167	165	165	163	212	212
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4 TOTAL LOADS	10100	10100	10335	11634	12624	13304	13608	13622	12707	11976	11976	11189	10433	10063
RESOURCES														
5 REGULATED HYDRO	4282	4241	3670	3823	4181	4112	4077	4012	3864	3864	3904	3884	4281	4318
6 INDEPENDENT HYDRO	192	195	217	223	229	222	223	229	241	234	233	237	236	206
7 CAN. ENT. RETURN (CSPE) 3/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 CAN. ENT. RETURN (CANADA)4/	-98	-103	-98	-96	-100	-96	-96	-100	-96	-101	-101	-106	-101	-101
9 RESTORATION 5/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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10 TOTAL HYDRO	4376	4333	3789	3950	4310	4238	4204	4141	4009	3997	4036	4015	4416	4423
11 SMALL THERMAL & MISC 6/	18	18	18	18	18	18	18	18	18	18	18	1	18	18
12 COMBUSTION TURBINES 7/	235	235	239	245	247	249	247	245	242	242	242	239	235	231
13 CSPE PURCHASE 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 RENEWABLES 9/	7	7	7	7	7	7	7	7	7	7	7	7	7	7
15 COGENERATION 10/	20	20	20	20	20	0	20	20	20	20	20	20	20	0
16 IMPORTS 11/	208	208	209	143	122	164	195	228	254	155	155	143	143	143
17 CONTRACTS IN 12/	1334	1334	1135	1252	1291	1404	1468	1482	1347	1278	1278	1378	1353	1346
18 LARGE THERMAL 13/	375	375	375	375	375	375	375	375	375	188	188	375	375	375
19 NON-UTILITY GENERATION 14/	237	237	169	94	48	48	49	52	80	195	195	285	298	272
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20 TOTAL RESOURCES	6810	6767	5961	6104	6438	6503	6583	6568	6352	6100	6139	6463	6865	6815
21 HYD SM THRM & MISC RES 15/	-249	-247	-217	-221	-237	-232	-232	-229	-223	-229	-231	-233	-254	-252
22 LARGE THERMAL RESERVES 16/	-56	-56	-56	-56	-56	-56	-56	-56	-56	-28	-28	-56	-56	-56
23 PUBLIC HYDRO MAINT 17/	-578	-538	-482	-114	-81	-59	-74	-101	-212	-242	-245	-240	-249	-254
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24 NET RESOURCES	5927	5926	5206	5713	6063	6156	6220	6182	5861	5602	5635	5933	6306	6253
25 SURPLUS/DEFICIT	-4173	-4174	-5129	-5921	-6561	-7148	-7388	-7440	-6846	-6374	-6341	-5256	-4127	-3810
26 BPA PSC DIVERSIFICATION 18/	779	779	858	1193	1512	1641	1576	1485	1252	1300	1300	1380	1196	915
27 DEDICATED RESOURCES 19/	6166	6120	5404	5529	5910	5979	6035	6025	5795	5569	5609	5914	6266	6229
28 BPA PWR SALE CNTRCT PUR 20/	5104	5061	5206	5288	6031	6529	6881	7013	6172	5782	5779	5153	4561	4350
29 SURPLUS/DEFICIT W/PURCHASE	934	890	80	-630	-526	-616	-504	-424	-671	-588	-559	-99	437	543
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	-2072	-2195	-2236	-2244	0	0	0	0	0	0
31 SURPLUS/DEFICIT W/EXTRM WX	934	890	80	-630	-2599	-2811	-2740	-2668	-671	-588	-559	-99	437	543
32 POSSIBLE OBLIG ON BPA 22/	0	0	0	0	1422	1492	1357	1387	0	0	0	0	0	0
33 SURPLUS/DEFICIT AFTR BPA OB	934	890	80	-630	-1176	-1319	-1383	-1281	-671	-588	-559	-99	437	543

TABLE 3: TOTAL PUBLIC AGENCIES
SUMMARY OF PUBLIC AGENCIES LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS														
1998 WHITE BOOK: 12/31/98														
2008-9 OPERATING YEAR														
RUN DATE: 12/31/98														
1937 WATER YEAR														
PEAK IN MEGAWATTS	AUG	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL
	1-15	16-31								1-15	16-30			
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LOADS														
1 SYSTEM LOADS	10026	10026	10349	11694	12763	13431	13723	13784	12896	12185	12185	11417	10493	10098
2 EXPORTS 1/	80	80	60	29	0	0	0	0	0	0	0	0	81	82
3 CONTRACTS OUT 2/	212	212	212	214	167	173	172	169	167	165	165	163	212	222
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4 TOTAL LOADS	10318	10318	10621	11937	12930	13604	13895	13953	13063	12350	12350	11580	10786	10402
RESOURCES														
5 REGULATED HYDRO	4696	4654	4082	4234	4593	4523	4489	4424	4276	4276	4315	4298	4695	4692
6 INDEPENDENT HYDRO	192	195	217	223	229	222	223	229	241	234	233	237	236	206
7 CAN. ENT. RETURN (CSPE) 3/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 CAN. ENT. RETURN (CANADA)4/	-121	-128	-121	-119	-124	-119	-119	-124	-119	-125	-125	-131	-125	-125
9 RESTORATION 5/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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10 TOTAL HYDRO	4767	4721	4178	4338	4698	4626	4593	4529	4398	4385	4423	4404	4806	4773
11 SMALL THERMAL & MISC 6/	18	18	18	18	18	18	18	18	18	18	18	1	18	18
12 COMBUSTION TURBINES 7/	228	228	231	237	239	241	251	249	246	246	246	243	239	235
13 CSPE PURCHASE 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 RENEWABLES 9/	7	7	7	7	7	7	7	7	7	7	7	7	7	7
15 COGENERATION 10/	20	20	20	20	20	0	20	20	20	20	20	20	20	0
16 IMPORTS 11/	143	143	143	143	122	164	195	228	254	155	155	143	143	143
17 CONTRACTS IN 12/	272	272	254	267	289	325	330	348	314	293	293	275	272	270
18 LARGE THERMAL 13/	375	375	375	375	375	375	375	375	375	375	375	188	375	375
19 NON-UTILITY GENERATION 14/	230	230	162	87	41	40	42	44	72	187	187	278	291	265
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20 TOTAL RESOURCES	6060	6014	5388	5492	5809	5796	5831	5818	5704	5686	5724	5559	6171	6086
21 HYD SM THRM & MISC RES 15/	-269	-267	-236	-241	-257	-252	-252	-249	-244	-249	-251	-254	-275	-271
22 LARGE THERMAL RESERVES 16/	-56	-56	-56	-56	-56	-56	-56	-56	-56	-56	-56	-28	-56	-56
23 PUBLIC HYDRO MAINT 17/	-578	-538	-482	-114	-81	-59	-74	-101	-212	-242	-245	-240	-249	-254
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24 NET RESOURCES	5157	5153	4614	5081	5414	5429	5448	5412	5192	5140	5172	5036	5591	5505
25 SURPLUS/DEFICIT	-5161	-5166	-6007	-6856	-7516	-8175	-8447	-8541	-7871	-7210	-7178	-6544	-5195	-4897
26 BPA PSC DIVERSIFICATION 18/	779	779	858	1193	1512	1641	1576	1485	1252	1300	1300	1380	1196	915
27 DEDICATED RESOURCES 19/	5060	5011	4424	4549	4864	4858	4868	4860	4731	4711	4751	4620	5164	5091
28 BPA PWR SALE CNTRCT PUR 20/	5104	5061	5206	5288	6031	6529	6881	7013	6172	5782	5779	5153	4561	4350
29 SURPLUS/DEFICIT W/PURCHASE	-54	-101	-798	-1565	-1481	-1643	-1563	-1525	-1696	-1425	-1397	-1388	-631	-544
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	-2143	-2262	-2299	-2314	0	0	0	0	0	0
31 SURPLUS/DEFICIT W/EXTRM WX	-54	-101	-798	-1565	-3624	-3905	-3862	-3839	-1696	-1425	-1397	-1388	-631	-544
32 POSSIBLE OBLIG ON BPA 22/	0	0	0	0	1600	1700	1741	1754	0	0	0	0	0	0
33 SURPLUS/DEFICIT AFTR BPA OB	-54	-101	-798	-1565	-2024	-2205	-2121	-2085	-1696	-1425	-1397	-1388	-631	-544

PUBLIC AGENCIES FOOTNOTES

Total Public Agencies Table 3

1. Public agencies' exports include: AVC to Modesto, power sale; AVC to West Kootenai, capacity sale; the city of Idaho Falls to Utah Power Company, Gem State Hydro; SCL to NCPA, seasonal power exchange; Snohomish County PUD to SMUD, power sale; and TPU to WAPA, power sale.
2. Public agencies' contracts out include: Chelan County PUD to BPA, supplemental and entitlement replacement; Chelan County PUD to PGE, capacity/energy exchange; Colockum to BPA, supplemental and entitlement replacement; Colockum to PP&L, capacity/energy exchange; Cowlitz County PUD to BPA, supplemental and entitlement replacement; Douglas County PUD to BPA, supplemental and entitlement replacement; EWEB to BPA, supplemental and entitlement replacement; EWEB to PGE, capacity sale; city of Forest Grove to BPA, supplemental and entitlement replacement; Grant County PUD to BPA, supplemental and entitlement replacement; Grant County PUD to PP&L, power sale; Grays Harbor PUD to PSE, Centralia exchange; Kittitas County PUD to BPA, supplemental and entitlement replacement; Lewis County PUD to PSE, power sale; Mason County PUD #3 to PSE, power sale; city of McMinnville to BPA, supplemental and entitlement replacement; Northern Wasco PUD to PSE, power sale; Okanogan County PUD to BPA, supplemental and entitlement replacement; PNGC to PGE, peak replacement; Pend Oreille to Pondaray Mill, power sale; Pend Oreille to SCL, power sale; SCL to BPA, supplemental and entitlement replacement; SCL to IPC, seasonal power exchange; SCL to Pend Oreille, power sale; SCL to TPU, energy sale; Snohomish County PUD to PSE, power sale; TPU to BPA, supplemental and entitlement replacement; and TPU to SCL, energy sale.
3. Canadian Entitlement Return non-Federal to the Columbia River Power Exchange (CSPE) reflects the public agencies' obligation of Canadian Entitlement allocation to CSPE, which expires April 1, 2003.
4. Canadian Entitlement Return non-Federal to Canada reflects the public agencies' obligation of Canadian Entitlement allocation to Canada, which begins April 1, 1998.
5. Restoration is the obligation of the public agencies that gained generation from the addition of Canadian storage to utilities that lost generation from it, according to the terms of the Pacific Northwest Coordination Agreement.
6. Public agencies' small thermal and miscellaneous resources include: TPU: Steam Plant No. 2; and SCL: Boundary.
7. Public agencies' combustion turbines include: Clark County PUD: River Road (Cogentrix).
8. Columbia Storage Power Exchange (CSPE) is the sale to Northwest utilities through April 1, 2003, of the Canadian share of downstream benefits under the Treaty with Canada.
9. Public agencies' renewable resources include: Emerald PUD: Short Mountain; and Consumers Power Incorporated: Coffin Butte.
10. Public agencies' cogeneration includes: EWEB: Weyerhaeuser's WEYCO Energy Center; and Snohomish County PUD: Scott Paper.

11. Public agencies' imports include: BC Hydro to SCL, Ross replacement; PowerEx to EWEB, power sale; and NCPA to SCL, seasonal power exchange.
12. Public agencies' contracts in include: AVC to the city of Cheney, Washington, power sale; AVC to Clark Public Utilities, power sale; AVC to EWEB, power sale; AVC to other entities, power sale; AVC to Pend Oreille, power sale; AVC to Snohomish County PUD, power sale; BPA to Bandon power sale; BPA to Big Bend Electric, summer seasonal product; BPA to Central Electric Cooperative, summer seasonal product; BPA to Chelan, supplemental and entitlement capacity; BPA to city of Ashland, power sale; BPA to city of Idaho Falls, power sale; BPA to Colockum, supplemental and entitlement capacity; BPA to Columbia Basin Electric Cooperative, summer seasonal product; BPA to Columbia River PUD, power sale; BPA to Columbia Rural Electric Cooperative, summer seasonal product; BPA to Cowlitz County PUD, power sale and supplemental and entitlement capacity; BPA to Douglas County PUD, power sale and supplemental and entitlement capacity; BPA to EWEB, power sale and supplemental and entitlement capacity; BPA to city of Forest Grove, power sale and supplemental and entitlement capacity; BPA to Grant County PUD, power sale and supplemental and entitlement capacity; BPA to Harney Electric Cooperative, summer seasonal product; BPA to Inland Power and Light, summer seasonal product; BPA to Kittitas, supplemental and entitlement capacity; BPA to Lewis County PUD, power sale; BPA to Lower Valley, power sale; BPA to Mason County PUD #3, power sale; BPA to city of McMinnville, power sale and supplemental and entitlement capacity; BPA to Midstate Electric Cooperative, summer seasonal product; BPA to city of Milton-Freewater, power sale; BPA to Modern Electric Cooperative, power sale; BPA to Monmouth, power sale; BPA to Nespelem Valley, summer seasonal product; BPA to Northern Wasco PUD, power sale; BPA to Okanogan, summer seasonal product and supplemental and entitlement capacity; BPA to other entities, power sales; BPA to Ravalli County Electric Cooperative, power sale; BPA to Richland, Ormet power sale; BPA to Salem Electric Cooperative, power sale; BPA to SCL, supplemental and entitlement capacity; BPA to small and nongenerating public agencies, summer seasonal product and power sales including Hungry Horse power sale; BPA to Snohomish County PUD, power sale; BPA to Springfield Utility Board, power sale; BPA to Surprise Valley Electric Corporation, summer seasonal product; BPA to Tillamook, power sale; BPA to TPU, power sale and supplemental and entitlement capacity; BPA to United Electric Cooperative, power sale; BPA to Umatilla Electric Cooperative, summer seasonal product; BPA to Vigilante Electric Cooperative, summer seasonal product; BPA to Wasco County Electric Cooperative, summer seasonal product; BPA to Western Oregon Electric Cooperative, power sale; IPC to Oregon Trail Cooperative, power sale; IPC to city of Richland, power sale; IPC to SCL, seasonal power exchange; Northern Wasco County PUD to PSE, power sale; other entities to EWEB, power sale; PP&L to Colockum, exchange energy and peak replacement; PP&L to Springfield Utility Board, power sale; Pend Oreille to Pondaray Mill, power sale; Pend Oreille to SCL, power sale; PGE to Canby, power sale; PGE to Chelan County PUD, exchange energy and peak replacement; PGE to Clallam, power sale; PGE to EWEB, power sale; PGE to PNGC, capacity sale; PGE to Snohomish County PUD, power sale; PSE to Grays Harbor PUD, Centralia exchange; SCL to Pend Oreille, power sale; SCL to TPU, energy sale; and TPU to SCL, energy sale.
13. Public agencies' large thermal includes: Grays Harbor PUD, SCL, Snohomish County PUD, and TPU shares of Centralia.
14. Public agencies' non-utility generating resources are from independent power producers, power brokers, and qualified facilities under the Public Utilities Regulatory Act

(PURPA). These resources are summarized for the following public agencies: Chelan County PUD, Cowlitz County PUD, Douglas County PUD, Eugene Water and Electric Board, Grant County PUD, Pend Oreille County PUD, Seattle City Light, Small and Non-Generating Utilities, Snohomish County PUD, and Tacoma Public Utilities.

15. Hydro, small thermal and miscellaneous resources, and combustion turbine reserve requirements are 5 percent of the public agencies' share of capacity from these resources.
16. Large thermal reserve requirements are 15 percent of the public agencies' share of Pacific Northwest thermal resources.
17. Hydro maintenance is the sum of all public agency hydro project maintenance based on the mean of the 1983-84 through 1988-89 schedules submitted to the Northwest Power Pool.
18. This study reflects load diversification for the public agencies from BPA's Load Commitment Exercise. This reduces each utility's power sales contract purchase from BPA.
19. BPA Power Sales Contract Diversification is the amount of resource a utility could add to serve its own load as part of BPA's Load Commitment exercise.
20. Dedicated resources are the actual resources used in the operating year prior to the signing of the Pacific Northwest Electric Power Planning and Conservation Act (Public Law 96-501) and other resources the utility dedicates to serve its load.
21. Purchases from BPA include public agencies' firm power purchases under their power sales contracts and BPA's partnership program. This requirement is defined as the sum of the differences between each utility's firm load and its dedicated resources.
22. Extreme Weather adjustment for all public utilities for severe cold weather in the months of November through February.
23. Possible extreme weather adjustment obligation on BPA for those public utilities having the right to place the obligation on BPA.

TABLE 4: TOTAL INVESTOR-OWNED UTILITIES

SUMMARY OF INVESTOR-OWNED UTILITIES LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS														
1998 WHITE BOOK: 12/31/98														
1999-0 OPERATING YEAR RUN DATE: 12/31/98														
1937 WATER YEAR														
PEAK IN MEGAWATTS	AUG	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL
	1-15	16-31								1-15	16-30			
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LOADS														
1 SYSTEM LOADS	12552	12552	12117	13360	14422	15846	16316	15724	14403	13389	13389	12548	12624	12615
2 EXPORTS 1/	1193	1193	1061	673	751	819	809	704	623	650	650	683	1007	1035
3 CONTRACTS OUT 2/	1911	1911	1865	1649	1713	1840	1911	1919	1812	1792	1792	1616	1862	2021
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4 TOTAL LOADS	15656	15656	15043	15682	16886	18505	19036	18347	16838	15831	15831	14847	15493	15671
RESOURCES														
5 REGULATED HYDRO	6361	6262	6080	6027	6066	6232	6167	5918	6027	6128	6176	5917	6172	6256
6 INDEPENDENT HYDRO	962	933	911	878	883	903	886	867	874	898	913	930	945	986
7 CAN. ENT. RETURN (CSPE) 3/	-27	-27	-27	-27	-27	-27	-27	-27	-27	-24	-24	-24	-24	-23
8 CAN. ENT. RETURN (CANADA)4/	-86	-77	-78	-80	-78	-77	-80	-77	-77	-77	-85	-75	-77	-79
9 RESTORATION 5/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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10 TOTAL HYDRO	7210	7091	6886	6798	6844	7031	6946	6681	6797	6925	6980	6748	7016	7140
11 SMALL THERMAL & MISC 6/	50	50	44	47	142	139	140	137	46	49	43	35	0	52
12 COMBUSTION TURBINES 7/	931	931	931	931	1385	1385	1385	1385	931	431	931	931	931	931
13 CSPE PURCHASE 8/	100	100	100	100	100	100	100	100	100	96	96	96	96	96
14 RENEWABLES 9/	48	48	48	48	48	48	48	48	48	48	48	0	48	48
15 COGENERATION 10/	710	710	710	710	710	710	710	710	710	710	710	241	710	710
16 IMPORTS 11/	1567	1567	1312	1605	1799	1989	2048	2084	1468	1076	1076	1231	1715	1620
17 CONTRACTS IN 12/	3125	3125	3072	3180	3412	3627	3975	3926	3653	3201	3201	2862	3129	2898
18 LARGE THERMAL 13/	4054	4054	4033	4042	4057	4047	4050	4039	4040	3669	2935	2752	4010	4058
19 NON-UTILITY GENERATION 14/	1191	1191	1168	1141	1144	1129	1114	1139	1145	1186	1182	643	1028	1209
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20 TOTAL RESOURCES	18987	18868	18304	18602	19642	20206	20516	20249	18939	17391	17203	15539	18683	18762
21 HYD SM THRM & MISC RES 15/	-513	-506	-495	-489	-519	-527	-523	-510	-489	-473	-500	-435	-492	-510
22 LARGE THERMAL RESERVES 16/	-781	-781	-753	-746	-731	-761	-763	-767	-728	-678	-568	-559	-793	-778
23 IOU HYDRO MAINTENANCE 17/	-744	-724	-520	-333	-142	-106	-79	-305	-489	-427	-411	-336	-302	-657
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24 NET RESOURCES	16949	16857	16537	17034	18250	18812	19150	18668	17232	15813	15724	14210	17096	16817
25 SURPLUS/DEFICIT	1293	1201	1493	1352	1363	307	115	320	394	-17	-107	-637	1603	1146
26 BPA PSC DIVERSIFICATION 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 DEDICATED RESOURCES 19/	13385	13266	12900	12755	12807	13195	13104	12915	12619	12365	12403	11333	13159	13129
28 BPA PWR SALE CNTRCT PUR 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 SURPLUS/DEFICIT W/PURCHASE	1293	1201	1493	1352	1363	307	115	320	394	-17	-107	-637	1603	1146
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	-1721	-1890	-1951	-1871	0	0	0	0	0	0
31 SURPLUS/DEFICIT W/EXTRM WX	1293	1201	1493	1352	-358	-1583	-1836	-1551	394	-17	-107	-637	1603	1146

TABLE 4: TOTAL INVESTOR-OWNED UTILITIES

SUMMARY OF INVESTOR-OWNED UTILITIES LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
 UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS														
1998 WHITE BOOK: 12/31/98														
2003- 4 OPERATING YEAR														
RUN DATE: 12/31/98														
1937 WATER YEAR	AUG		SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL
PEAK IN MEGAWATTS	1-15	16-31								1-15	16-30			
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LOADS														
1 SYSTEM LOADS	12886	12886	12435	13682	14750	16221	16764	16141	14791	13744	13744	12893	12985	12987
2 EXPORTS 1/	1002	1002	936	567	596	624	552	526	522	549	549	559	898	945
3 CONTRACTS OUT 2/	797	797	747	547	347	447	397	397	347	347	347	253	303	397
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4 TOTAL LOADS	14685	14685	14118	14796	15693	17292	17713	17064	15660	14640	14640	13705	14186	14329
RESOURCES														
5 REGULATED HYDRO	6215	6116	5934	5881	5920	6086	6029	5781	5879	5983	6029	5772	6028	6103
6 INDEPENDENT HYDRO	964	935	915	877	883	903	899	877	877	904	915	934	950	978
7 CAN. ENT. RETURN (CSPE) 3/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 CAN. ENT. RETURN (CANADA)4/	-135	-145	-135	-135	-142	-135	-135	-143	-135	-142	-142	-146	-142	-141
9 RESTORATION 5/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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10 TOTAL HYDRO	7044	6906	6714	6623	6661	6854	6793	6515	6621	6745	6802	6560	6836	6940
11 SMALL THERMAL & MISC 6/	61	61	55	58	153	150	156	154	57	62	54	47	0	57
12 COMBUSTION TURBINES 7/	931	931	931	931	1385	1385	1385	1385	931	431	931	931	931	931
13 CSPE PURCHASE 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 RENEWABLES 9/	48	48	48	48	48	48	48	48	48	48	48	0	48	48
15 COGENERATION 10/	710	710	710	710	710	710	710	710	710	710	710	241	710	710
16 IMPORTS 11/	1480	1480	1005	1514	2042	1881	1522	1560	1266	978	978	1483	1637	1538
17 CONTRACTS IN 12/	1853	1853	1810	1616	1637	1794	1718	1671	1516	1513	1513	1193	1310	1420
18 LARGE THERMAL 13/	4091	4091	4071	4081	4095	4085	4107	4100	3725	3273	2724	3443	4052	4077
19 NON-UTILITY GENERATION 14/	1139	1139	1117	1090	1092	1077	1066	1092	1094	1136	1131	617	1002	1147
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20 TOTAL RESOURCES	17357	17219	16461	16671	17823	17984	17505	17235	15968	14896	14891	14515	16526	16868
21 HYD SM THRM & MISC RES 15/	-503	-497	-485	-480	-510	-518	-515	-502	-480	-464	-491	-427	-483	-499
22 LARGE THERMAL RESERVES 16/	-769	-769	-710	-736	-772	-749	-753	-758	-711	-602	-520	-698	-783	-763
23 IOU HYDRO MAINTENANCE 17/	-747	-726	-520	-333	-142	-106	-79	-306	-491	-427	-411	-336	-302	-657
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24 NET RESOURCES	15338	15227	14746	15122	16399	16612	16158	15669	14286	13403	13470	13054	14958	14949
25 SURPLUS/DEFICIT	654	542	628	326	707	-680	-1555	-1395	-1374	-1237	-1171	-651	772	620
26 BPA PSC DIVERSIFICATION 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 DEDICATED RESOURCES 19/	12835	12697	12139	12210	12583	12647	12628	12408	12084	11564	11788	11859	12693	12823
28 BPA PWR SALE CNTRCT PUR 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 SURPLUS/DEFICIT W/PURCHASE	654	542	628	326	707	-680	-1555	-1395	-1374	-1237	-1171	-651	772	620
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	-1754	-1927	-1995	-1912	0	0	0	0	0	0
31 SURPLUS/DEFICIT W/EXTRM WX	654	542	628	326	-1047	-2607	-3550	-3307	-1374	-1237	-1171	-651	772	620

TABLE 4: TOTAL INVESTOR-OWNED UTILITIES

SUMMARY OF INVESTOR-OWNED UTILITIES LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS														
1998 WHITE BOOK: 12/31/98														
2008- 9 OPERATING YEAR														
RUN DATE: 12/31/98														
1937 WATER YEAR	AUG		SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL
PEAK IN MEGAWATTS	1-15	16-31								1-15	16-30			
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LOADS														
1 SYSTEM LOADS	13534	13534	13055	14325	15418	16968	17618	16972	15545	14435	14435	13560	13665	13572
2 EXPORTS 1/	310	310	243	196	210	233	240	217	207	235	235	245	284	403
3 CONTRACTS OUT 2/	297	297	297	247	247	297	297	297	247	247	247	153	153	247
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4 TOTAL LOADS	14141	14141	13595	14768	15875	17498	18155	17486	15999	14917	14917	13958	14102	14222
RESOURCES														
5 REGULATED HYDRO	5793	5695	5523	5471	5509	5685	5619	5371	5470	5573	5620	5360	5617	5732
6 INDEPENDENT HYDRO	955	926	916	878	884	915	901	879	878	907	918	937	952	980
7 CAN. ENT. RETURN (CSPE) 3/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 CAN. ENT. RETURN (CANADA)4/	-112	-120	-112	-112	-118	-112	-112	-119	-112	-118	-118	-121	-118	-117
9 RESTORATION 5/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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10 TOTAL HYDRO	6636	6501	6327	6237	6275	6488	6408	6131	6236	6362	6420	6176	6451	6595
11 SMALL THERMAL & MISC 6/	56	56	56	58	153	157	158	155	59	63	56	49	0	58
12 COMBUSTION TURBINES 7/	931	931	931	931	1385	1385	1385	1385	931	431	931	931	931	931
13 CSPE PURCHASE 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 RENEWABLES 9/	48	48	48	48	48	48	48	48	48	48	48	0	48	48
15 COGENERATION 10/	710	710	710	710	710	710	710	710	710	710	710	241	710	710
16 IMPORTS 11/	1385	1385	1131	990	1212	1039	1108	1144	832	866	866	1380	1545	1415
17 CONTRACTS IN 12/	1399	1399	1428	1416	1637	1744	1718	1671	1516	1513	1513	1193	1260	1380
18 LARGE THERMAL 13/	4074	4074	4074	4083	4097	4109	4111	4103	3907	3760	2858	2964	4057	4081
19 NON-UTILITY GENERATION 14/	1133	1133	1113	1086	1086	1073	1057	1082	1083	1126	1121	607	991	1148
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20 TOTAL RESOURCES	16372	16237	15818	15559	16603	16753	16703	16429	15322	14879	14523	13541	15993	16366
21 HYD SM THRM & MISC RES 15/	-481	-475	-465	-459	-489	-499	-494	-481	-459	-443	-470	-406	-462	-480
22 LARGE THERMAL RESERVES 16/	-747	-747	-725	-718	-753	-732	-734	-739	-671	-656	-521	-608	-765	-742
23 IOU HYDRO MAINTENANCE 17/	-745	-725	-520	-333	-142	-106	-79	-306	-491	-427	-411	-336	-302	-657
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24 NET RESOURCES	14398	14289	14108	14049	15219	15417	15395	14903	13701	13353	13122	12192	14464	14487
25 SURPLUS/DEFICIT	257	149	512	-719	-656	-2081	-2760	-2583	-2299	-1564	-1795	-1766	362	265
26 BPA PSC DIVERSIFICATION 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 DEDICATED RESOURCES 19/	12402	12267	11928	11757	12142	12197	12115	11893	11431	11541	11413	10876	12190	12342
28 BPA PWR SALE CNTRCT PUR 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 SURPLUS/DEFICIT W/PURCHASE	257	149	512	-719	-656	-2081	-2760	-2583	-2299	-1564	-1795	-1766	362	265
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	-1825	-2005	-2087	-2004	0	0	0	0	0	0
31 SURPLUS/DEFICIT W/EXTRM WX	257	149	512	-719	-2481	-4086	-4847	-4587	-2299	-1564	-1795	-1766	362	265

PRIVATE UTILITIES FOOTNOTES

Total Private Utilities Table 4

1. Private utilities' exports include: IPC to City of Washington, Utah, power sale; IPC to Sierra Pacific, power sale and for Harney and Wells; IPC to Truckee/Donner, power sale; IPC to UAMPS, power sale; PP&L to CDWR, power sale; PP&L to PP&L (Northern California), transfer to PP&L's Northern California load; PP&L to City of Redding, power sale; PP&L to SCE, power sale; PP&L to SMUD, power sale; PP&L to WAPA, power sale; PGE to Glendale, power sale and seasonal power exchange; and PSE to PG&E, seasonal power exchange.
2. Private utilities' contracts out include: AVC to BPA, supplemental and entitlement replacement and WNP-3 settlement; AVC to City of Cheney, Washington, power sale; AVC to Clark Public Utilities, power sale; AVC to EWEB, power sale; AVC to MPC, power sale; AVC to other entities, power sale; AVC to PP&L, power sale and seasonal power exchange; AVC to Pend Oreille, power sale; AVC to PGE, capacity sale; AVC to PSE, power sale; AVC to Snohomish County PUD, power sale; IPC to AVC, power sale; IPC to Energy Services, power sale; IPC to Oregon Trail, power sale; IPC to PGE, power sale; IPC to MPC, seasonal power exchange; IPC to City of Richland, power sale; IPC to SCL, seasonal power exchange; MPC to BPA, exchange energy and peak replacement; MPC to IPC, seasonal power exchange; MPC to PSE, power sale; other entities to AVC, power sale; other entities to BPA, power sale; other entities to EWEB, power sale; other entities to PGE, power sale; PGE to BPA, supplemental and entitlement replacement; PP&L to AVC, seasonal power exchange; PP&L to BPA, supplemental and entitlement replacement and peak replacement; PP&L to Colockum, exchange energy and peak replacement; PP&L to PSE, power sale; PP&L to small, nongenerating utilities, power sales; PP&L to Springfield Utility Board, power sale; PGE to AVC, peak replacement; PGE to BPA, peak replacement; PGE to Canby, power sale; PGE to Chelan, exchange energy and peak replacement; PGE to Clallam, power sale; PGE to EWEB, power sale; PGE to PNGC, capacity sale; PGE to PP&L, Cove replacement; PGE to Snohomish County PUD, power sale; PSE to AVC, power sale; PSE to BPA, supplemental and entitlement replacement and WNP-3 settlement; PSE to Grays Harbor PUD, Centralia exchange.
3. Canadian Entitlement Return non-Federal to the Columbia River Power Exchange (CSPE) reflects the private utilities' obligation of Canadian Entitlement allocation to CSPE, which expires April 1, 2003.
4. Canadian Entitlement Return non-Federal to Canada reflects the private utilities' obligation of Canadian Entitlement allocation to Canada, which begins April 1, 1998.
5. Restoration is the obligation of the private utilities that gained generation from the addition of Canadian storage to utilities that lost generation from it, according to the terms of the Pacific Northwest Coordination Agreement.

6. Private utilities' existing small thermal and miscellaneous resources include: IPC: Energy Management Systems; PSE: Shuffleton and Crystal Mountain; PGE: Summit plants 1 and 2; and MPC: portions of Bird and Corette in the region.
7. Private utilities' combustion turbines include: IPC: Wood River; PGE: Bethel and Beaver; PSE: Whidbey Island, Whitehorn, Fredrickson, and Fredonia 1 and 2; and WWP: Northeast units 1 and 2.
8. Columbia Storage Power Exchange (CSPE) is the sale to Northwest utilities through April 1, 2003, of the Canadian share of downstream benefits under the Treaty with Canada.
9. Private utilities' renewable resources include WWP: Kettle Falls.
10. Private utility cogeneration resources include PGE: Coyote Springs; and PP&L, Hermiston.
11. Private utilities' imports include: BC Hydro to PSE, power sale; SCE to PP&L, power sale; Glendale to PGE, seasonal power exchange; PG&E to PSE, seasonal power exchange; PP&L Wyoming division to PP&L, intra-company transfer, and Utah Power Company import for their load within the region.
12. Private utilities' contracts in include: AVC to MPC, power sale; AVC to PP&L, power sale and seasonal power exchange; AVC to PGE, capacity sale; AVC to PSE, power sale; BPA to AVC, power sale, deferred power exchange, supplemental and entitlement capacity, and WNP-3 settlement; BPA to IPC, for Harney and Wells; BPA to MPC, capacity/energy exchange; BPA to PP&L, capacity sale, Southern Idaho exchange, supplemental and entitlement capacity, and Centralia standby; BPA to PGE, capacity sale, supplemental and entitlement capacity, and power sale; BPA to PSE, supplemental and entitlement capacity, power sale, Baker Head loss, and WNP-3 settlement; Chelan to PGE, capacity/energy exchange; Colockum to PP&L, capacity/energy exchange; EWEB to PGE, capacity sale; Grant to PP&L, power sale; Grays Harbor to PSE, Centralia exchange; IPC to AVC, power sale; IPC to Energy Service, power sale; IPC to MPC, seasonal power exchange; IPC to PGE, power sale; Lewis County PUD to PSE, power sale; Mason County PUD #3 to PSE, power sale; Northern Wasco County PUD to PSE, power sale; MPC to IPC, seasonal power exchange; MPC to PSE, power sale; other entities to AVC, power sale; other entities to PGE, power sale; PGE to PP&L, Cove replacement; SCL to IPC, seasonal power exchange; and Snohomish County PUD to PSE, power sale.
13. Private utilities' large thermal includes the private utilities' shares of Centralia, Jim Bridger, Colstrip 1 and 2, Colstrip 3 and 4, Boardman Coal, and Valmy.
14. Private utilities' non-utility generating resources from independent power producers, power brokers, and qualifying facilities under the Public Utilities Regulatory Act (PURPA). These resources are summarized for the following private utilities: Idaho Power Company, Montana Power Company, Pacific Power and Light, Portland General Electric, Puget Sound Power and Light, and Washington Water Power.
15. Hydro, small thermal and miscellaneous resources, and combustion turbine reserve requirements are 5 percent of the private utilities' share in the capacity of these resources.
16. Large thermal reserve requirements are 15 percent of the private utilities' share of Pacific Northwest thermal resources and the Pacific Power and Light import from Wyoming.

17. Hydro maintenance is the sum of all private utility hydro project maintenance based on the mean of the 1983-84 through 1988-89 schedules submitted to the Northwest Power Pool.
18. BPA Power Sales Contract Diversification is the amount of resource a utility could add to serve its own load as part of BPA's Load Commitment exercise. For this study, no IOU diversification from the existing power sales contract is assumed.
19. Dedicated resources are the actual resources used in the operating year prior to the signing of the Pacific Northwest Electric Power Planning and Conservation Act (Public Law 96-501) and other resources the utility dedicates to serve its load.
20. Purchases from BPA include the private utilities' contracted firm energy or firm capacity purchases under their power sales contracts and BPA's partnership program. Currently, no IOU places load on BPA through a power sales contract.
21. Extreme weather adjustment for all private utilities for severe cold weather in the months of November through February.