

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															
ENERGY IN AVERAGE MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL	12 MO AVG
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FIRM LOADS															
1 SYSTEM FIRM LOADS 1/	20348	20349	19854	20549	22561	24130	24791	23770	22340	21050	21044	20419	20392	20581	21732
2 EXPORTS 3/	2285	2285	2239	1927	1792	1817	1757	1716	1622	1759	1792	1822	2347	2409	1959
3 FED DIVERSITY 4/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 FIRM LOADS	22633	22634	22092	22476	24353	25947	26548	25486	23962	22809	22836	22241	22739	22989	23691
NON-FIRM LOADS															
5 REGIONAL NON-FIRM LOADS 2/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 TOTAL LOADS	22633	22634	22092	22476	24353	25947	26548	25486	23962	22809	22836	22241	22739	22989	23691
HYDRO RESOURCES															
7 REGULATED HYDRO 5/	12313	9487	9030	9173	9884	11922	10500	10074	8740	9228	9266	14227	13442	11838	10748
8 INDEPENDENT HYDRO 6/	1074	1096	1029	1013	941	998	819	833	979	1250	1286	1547	1585	1165	1105
9 SUS. PKNG. ADJUSTMENT 7/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 TOTAL HYDRO	13387	10583	10059	10186	10825	12920	11319	10907	9719	10478	10552	15774	15027	13003	11853
OTHER RESOURCES															
11 SMALL THERMAL & MISC 8/	94	96	81	81	87	84	85	85	80	92	78	68	19	86	78
12 COMBUSTION TURBINES 9/	776	776	780	785	818	820	827	828	583	361	648	761	785	781	754
13 RENEWABLES 10/	78	78	78	79	80	82	83	82	82	81	81	33	78	78	76
14 COGENERATION 11/	717	717	717	717	717	710	717	717	667	717	717	274	717	710	675
15 IMPORTS 12/	1821	1821	1581	1496	1816	1906	2104	2193	1736	1568	1246	1095	1636	1776	1714
16 CENTRALIA	1252	1252	1253	1253	1253	1253	1253	1253	1252	1252	1252	667	1253	1253	1204
17 JIM BRIDGER	638	638	637	638	637	638	638	637	602	478	456	478	616	638	605
18 COLSTRIP 1 & 2	437	440	410	410	410	404	406	405	408	216	320	252	391	420	385
19 BOARDMAN	440	440	440	440	440	440	440	440	440	440	440	0	220	440	385
20 VALMY	202	202	202	202	202	202	202	202	160	202	189	163	202	202	195
21 COLSTRIP 3	601	604	582	581	582	578	579	578	581	598	578	330	379	589	546
22 WNP 2	1000	820	433	277	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	885
23 COLSTRIP 4	705	705	705	705	705	705	705	705	705	705	282	386	705	705	661
24 FED RESOURCE ACQUIS 13/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 NON-UTILITY GENERATION 14/	1201	1202	1117	1010	984	973	960	987	1009	1150	1143	863	1178	1249	1056
26 TOTAL RESOURCES	23349	20374	19075	18861	20556	22714	21318	21019	19024	19338	18982	22144	24206	22930	21072

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MEDIUM LOADS

1998 WHITE BOOK: 12/31/98

1999-0 OPERATING YEAR

RUN DATE: 12/31/98

1937 WATER YEAR

ENERGY IN AVERAGE MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL	12 MO AVG
RESERVES & MAINTENANCE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
27 HYD SM THRM & MISC RES 15/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 LARGE THERMAL RESERVES 16/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 BPA SPINNING RESERVES 17/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 HYDRO MAINTENANCE 18/	-31	-26	-9	-9	-4	0	0	0	-5	-7	-8	-20	-15	-50	-12
31 NET RESOURCES	23317	20348	19066	18852	20552	22714	21318	21019	19019	19331	18974	22124	24191	22880	21060
SURPLUS/DEFICITS															
32 FIRM SURPLUS/DEFICIT	684	-2286	-3026	-3624	-3801	-3232	-5230	-4467	-4943	-3478	-3861	-117	1452	-110	-2631
33 TOTAL SURPLUS/DEFICIT	684	-2286	-3026	-3624	-3801	-3232	-5230	-4467	-4943	-3478	-3861	-117	1452	-110	-2631
34 EXTREME WEATHER ADJ. 19/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 FIRM S/D W/EXT WEATHER ADJ.	684	-2286	-3026	-3624	-3801	-3232	-5230	-4467	-4943	-3478	-3861	-117	1452	-110	-2631
36 TOTAL S/D W/EXT WTHR. ADJ.	684	-2286	-3026	-3624	-3801	-3232	-5230	-4467	-4943	-3478	-3861	-117	1452	-110	-2631

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MEDIUM LOADS

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2003- 4 OPERATING YEAR

RUN DATE: 12/31/98

1937 WATER YEAR	AUG	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL	12 MO	
ENERGY IN AVERAGE MEGAWATTS	1-15	16-31								1-15	16-30				AVG	
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FIRM LOADS																
1 SYSTEM FIRM LOADS 1/	20802	20802	20300	20989	23005	24573	25280	24270	22832	21520	21512	20891	20871	21076	22200	
2 EXPORTS 3/	2367	2367	2339	2018	1885	1902	1608	1590	1521	1529	1526	1540	2070	2186	1879	
3 FED DIVERSITY 4/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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4 FIRM LOADS	23169	23169	22639	23007	24890	26475	26888	25860	24353	23048	23037	22431	22941	23262	24080	
NON-FIRM LOADS																
5 REGIONAL NON-FIRM LOADS 2/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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6 TOTAL LOADS	23169	23169	22639	23007	24890	26475	26888	25860	24353	23048	23037	22431	22941	23262	24080	
HYDRO RESOURCES																
7 REGULATED HYDRO 5/	12348	9512	9052	9194	9910	11952	10539	10098	8758	9258	9294	14253	13461	11836	10772	
8 INDEPENDENT HYDRO 6/	1084	1105	1037	1015	939	997	822	838	975	1249	1286	1557	1595	1167	1109	
9 SUS. PKNG. ADJUSTMENT 7/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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10 TOTAL HYDRO	13432	10617	10089	10209	10849	12949	11361	10936	9733	10507	10580	15810	15056	13003	11880	
OTHER RESOURCES																
11 SMALL THERMAL & MISC 8/	89	90	75	75	82	79	87	87	75	86	73	62	19	72	73	
12 COMBUSTION TURBINES 9/	780	780	784	790	823	824	822	823	578	356	643	756	780	776	753	
13 RENEWABLES 10/	78	78	78	79	80	82	83	82	82	81	81	33	78	78	76	
14 COGENERATION 11/	717	717	717	717	717	710	717	717	667	717	717	274	717	710	675	
15 IMPORTS 12/	1515	1515	1120	1286	1642	1693	1761	1920	1687	1502	1180	1250	1513	1646	1531	
16 CENTRALIA	1253	1252	1253	1253	1253	1253	1253	1253	1192	626	626	1071	1252	1252	1180	
17 JIM BRIDGER	637	638	637	637	637	637	638	637	381	554	637	520	573	638	597	
18 COLSTRIP 1 & 2	426	429	399	399	400	394	410	409	399	210	311	245	381	392	376	
19 BOARDMAN	440	440	440	440	440	440	440	440	440	440	440	0	220	440	385	
20 VALMY	211	211	211	211	211	211	211	211	172	115	106	161	211	211	195	
21 COLSTRIP 3	593	596	574	574	575	570	582	581	573	589	570	325	374	569	539	
22 WNP 2	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
23 COLSTRIP 4	705	705	705	705	705	705	705	705	705	705	282	386	705	705	661	
24 FED RESOURCE ACQUIS 13/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25 NON-UTILITY GENERATION 14/	1177	1178	1093	983	958	948	939	966	986	1126	1119	855	1181	1214	1035	
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26 TOTAL RESOURCES	23053	20246	19174	19357	20371	22495	21008	20766	18669	18614	18365	22748	24059	22706	20958	

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2003- 4 OPERATING YEAR

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1937 WATER YEAR

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RESERVES & MAINTENANCE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
27 HYD SM THRM & MISC RES 15/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 LARGE THERMAL RESERVES 16/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 BPA SPINNING RESERVES 17/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 HYDRO MAINTENANCE 18/	-31	-26	-9	-9	-4	0	0	0	-5	-7	-8	-20	-15	-50	-12
31 NET RESOURCES	23022	20220	19166	19348	20368	22495	21008	20766	18664	18607	18358	22728	24045	22656	20946
SURPLUS/DEFICITS															
32 FIRM SURPLUS/DEFICIT	-148	-2949	-3474	-3659	-4523	-3980	-5879	-5093	-5689	-4442	-4680	297	1104	-606	-3134
33 TOTAL SURPLUS/DEFICIT	-148	-2949	-3474	-3659	-4523	-3980	-5879	-5093	-5689	-4442	-4680	297	1104	-606	-3134
34 EXTREME WEATHER ADJ. 19/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 FIRM S/D W/EXT WEATHER ADJ.	-148	-2949	-3474	-3659	-4523	-3980	-5879	-5093	-5689	-4442	-4680	297	1104	-606	-3134
36 TOTAL S/D W/EXT WTHR. ADJ.	-148	-2949	-3474	-3659	-4523	-3980	-5879	-5093	-5689	-4442	-4680	297	1104	-606	-3134

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MEDIUM LOADS															
1998 WHITE BOOK: 12/31/98															
2008-9 OPERATING YEAR RUN DATE: 12/31/98															
1937 WATER YEAR															
ENERGY IN AVERAGE MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL	12 MO AVG
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FIRM LOADS															
1 SYSTEM FIRM LOADS 1/	21586	21586	21081	21774	23810	25402	26164	25088	23687	22333	22324	21702	21684	21900	23017
2 EXPORTS 3/	1316	1316	1281	1162	1117	1138	1121	1113	1028	1078	1044	1046	1157	1239	1148
3 FED DIVERSITY 4/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 FIRM LOADS	22902	22902	22362	22936	24927	26540	27285	26201	24715	23411	23368	22748	22841	23139	24165
NON-FIRM LOADS															
5 REGIONAL NON-FIRM LOADS 2/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 TOTAL LOADS	22902	22902	22362	22936	24927	26540	27285	26201	24715	23411	23368	22748	22841	23139	24165
HYDRO RESOURCES															
7 REGULATED HYDRO 5/	12384	9538	9081	9224	9945	11999	10581	10122	8784	9295	9330	14295	13492	11862	10805
8 INDEPENDENT HYDRO 6/	1073	1093	1037	1015	940	1005	823	838	975	1250	1287	1557	1596	1167	1109
9 SUS. PKNG. ADJUSTMENT 7/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 TOTAL HYDRO	13457	10631	10118	10239	10885	13004	11404	10960	9759	10545	10617	15852	15088	13029	11914
OTHER RESOURCES															
11 SMALL THERMAL & MISC 8/	78	80	76	76	83	86	88	87	76	87	73	63	19	73	74
12 COMBUSTION TURBINES 9/	773	773	776	782	815	816	826	827	582	360	647	760	784	780	752
13 RENEWABLES 10/	78	78	78	79	80	82	83	82	82	81	81	33	78	78	76
14 COGENERATION 11/	681	681	681	681	681	674	681	681	631	681	681	238	681	674	639
15 IMPORTS 12/	1381	1381	1141	1067	1273	1315	1361	1308	1071	1124	1086	908	1335	1469	1228
16 CENTRALIA	1253	1252	1253	1252	1253	1253	1253	1253	1253	1253	1253	667	1253	1252	1204
17 JIM BRIDGER	638	638	637	638	637	638	638	637	550	605	349	571	637	638	611
18 COLSTRIP 1 & 2	405	408	400	400	401	409	412	411	400	211	312	246	383	394	377
19 BOARDMAN	440	440	440	440	440	440	440	440	440	440	440	0	220	440	385
20 VALMY	211	211	211	211	211	211	211	211	169	116	106	161	211	211	195
21 COLSTRIP 3	578	580	575	575	575	581	583	582	574	590	571	326	374	570	540
22 WNP 2	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	0	0	1000	1000	875
23 COLSTRIP 4	705	705	705	705	705	705	705	705	705	705	282	386	705	705	661
24 FED RESOURCE ACQUIS 13/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 NON-UTILITY GENERATION 14/	1161	1162	1083	973	946	938	925	951	968	1110	1103	839	1164	1208	1022
26 TOTAL RESOURCES	22838	20019	19174	19118	19985	22152	20609	20135	18260	18908	17601	21050	23931	22521	20551

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2008- 9 OPERATING YEAR

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RESERVES & MAINTENANCE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
27 HYD SM THRM & MISC RES 15/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 LARGE THERMAL RESERVES 16/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 BPA SPINNING RESERVES 17/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 HYDRO MAINTENANCE 18/	-31	-26	-9	-9	-4	0	0	0	-5	-7	-8	-20	-15	-50	-12
31 NET RESOURCES	22807	19994	19165	19109	19981	22152	20609	20135	18254	18901	17594	21030	23916	22471	20539
SURPLUS/DEFICITS															
32 FIRM SURPLUS/DEFICIT	-95	-2909	-3197	-3827	-4946	-4387	-6675	-6066	-6461	-4510	-5775	-1718	1075	-668	-3626
33 TOTAL SURPLUS/DEFICIT	-95	-2909	-3197	-3827	-4946	-4387	-6675	-6066	-6461	-4510	-5775	-1718	1075	-668	-3626
34 EXTREME WEATHER ADJ. 19/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 FIRM S/D W/EXT WEATHER ADJ.	-95	-2909	-3197	-3827	-4946	-4387	-6675	-6066	-6461	-4510	-5775	-1718	1075	-668	-3626
36 TOTAL S/D W/EXT WTHR. ADJ.	-95	-2909	-3197	-3827	-4946	-4387	-6675	-6066	-6461	-4510	-5775	-1718	1075	-668	-3626

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

ENERGY IN AVERAGE MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL	12 MO AVG
LOADS	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1 FEDERAL AGENCIES	146	146	138	142	150	167	161	162	154	142	142	136	135	144	148
2 FEDERAL GPU TRANS LOSSES	41	42	49	75	84	90	81	67	56	56	50	48	44	40	61
3 FEDERAL NGP TRANS LOSSES	95	95	89	93	113	132	135	127	110	103	103	97	97	97	107
4 USBR	161	161	109	42	2	2	2	2	4	49	49	117	151	168	67
5 DSI FIRM LOAD	2484	2484	1945	1911	2088	2489	1578	1209	1051	1051	1051	2156	2155	2487	1884
6 DSI FIRM LOSSES	65	65	51	52	61	77	49	37	30	29	29	58	58	65	53
7 SM & NON GEN PUB PURCH 1/	2088	2088	1908	1887	2215	2397	2538	2364	2143	2079	2082	1904	1962	2054	2128
8 FIRM SYSTEM LOAD	5080	5081	4289	4202	4713	5354	4544	3968	3548	3509	3506	4516	4602	5055	4448
TRANSFERS OUT															
9 EXPORTS 2/	1225	1225	1238	1178	1057	1072	1059	1063	997	1104	1138	1226	1443	1406	1174
10 CONTRACTS OUT 3/	1247	1247	1299	1493	1814	1967	2730	2658	2464	2199	2199	2289	2304	1683	2012
11 CSPE TO WEST GROUP UTIL 4/	103	103	103	103	103	103	103	103	103	99	99	99	99	99	102
12 GEN PUB AGEN PSC PURCH 5/	1166	1180	1145	1225	1493	1590	1723	1722	1424	1174	1167	1131	962	1020	1315
13 IOU PSC PURCHASE 6/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 FED DIVERSITY 7/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 FIRM LOADS	8820	8835	8074	8201	9180	10087	10159	9513	8535	8086	8110	9261	9410	9263	9051
HYDRO RESOURCES															
16 REGULATED HYDRO	7062	5459	5761	5622	5928	7254	6310	6006	5163	5307	5222	8668	7494	6599	6361
17 INDEPENDENT HYDRO	409	407	345	370	296	225	166	187	265	419	498	685	719	423	379
18 SUS. PKNG. ADJUSTMENT 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 NON-FED CER(CSPE) TO BPA 9/	23	23	23	23	23	23	23	23	23	22	22	22	22	22	23
20 NON-FED CER(CAN) TO BPA 10/	83	83	83	83	83	83	83	83	83	82	82	82	82	82	83
21 RESTORATION 11/	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26
22 TOTAL HYDRO	7551	5946	6186	6072	6304	7559	6556	6273	5508	5804	5798	9431	8291	7100	6819
OTHER RESOURCES															
23 SMALL THERMAL & MISC	0	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	0
25 RENEWABLES 12/	27	27	27	28	29	31	32	31	31	30	30	27	27	27	29
26 COGENERATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 IMPORTS 13/	323	323	348	268	282	351	468	566	498	499	177	89	181	212	327
28 CONTRACTS IN 14/	536	536	648	648	648	668	693	693	673	639	639	527	639	475	624
29 LARGE THERMAL 15/	1000	820	433	277	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	885
30 NON-UTILITY GENERATION 16/	5	5	5	7	11	13	13	12	9	8	8	6	6	5	8
31 RESOURCE ACQUISITIONS 17/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 TOTAL RESOURCES	9442	7657	7648	7301	8274	9622	8762	8575	7720	7980	7652	11080	10144	8819	8692

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															
ENERGY IN AVERAGE MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL	12 MO AVG
RESERVES & MAINTENANCE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
33 HYD SM THRM & MISC RES 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 LARGE THERMAL RESERVES 19/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 SPINNING RESERVES 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 FEDERAL HYDRO MAINT 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 NET RESOURCES	9442	7657	7648	7301	8274	9622	8762	8575	7720	7980	7652	11080	10144	8819	8692
SURPLUS/DEFICITS															
38 FIRM SURPLUS/DEFICIT	622	-1178	-426	-900	-907	-465	-1397	-938	-816	-106	-458	1820	734	-445	-358
39 EXTREME WEATHER ADJ. 22/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 FIRM S/D W/EXT WEATHER ADJ.	622	-1178	-426	-900	-907	-465	-1397	-938	-816	-106	-458	1820	734	-445	-358
41 POSS FED EXT WTHR. OBLG 23/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 FIRM S/D W/EXT WTHR. OBLIG	622	-1178	-426	-900	-907	-465	-1397	-938	-816	-106	-458	1820	734	-445	-358

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

ENERGY IN AVERAGE MEGAWATTS

	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL	12 MO AVG
LOADS	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1 FEDERAL AGENCIES	149	149	141	145	154	171	165	166	158	145	145	139	138	148	152
2 FEDERAL GPU TRANS LOSSES	14	14	16	33	38	39	34	24	23	23	15	16	15	15	24
3 FEDERAL NGP TRANS LOSSES	98	98	92	96	116	134	138	130	113	106	106	100	100	99	110
4 USBR	162	162	109	42	2	2	2	2	4	50	50	118	152	169	68
5 DSI FIRM LOAD	2486	2486	1962	2078	2088	2488	1922	1382	1199	1049	1049	2156	2156	2464	1952
6 DSI FIRM LOSSES	65	65	51	56	61	77	60	43	35	29	29	58	58	64	55
7 SM & NON GEN PUB PURCH 1/	2518	2518	2359	1872	2291	2470	2685	2513	2292	2233	2236	1910	1967	2056	2264
	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
8 FIRM SYSTEM LOAD	5492	5492	4730	4322	4750	5381	5006	4260	3824	3635	3630	4497	4586	5015	4625
TRANSFERS OUT															
9 EXPORTS 2/	1395	1395	1412	1341	1233	1252	1032	1033	964	949	946	1037	1246	1248	1178
10 CONTRACTS OUT 3/	1623	1623	1510	1557	1887	2037	2034	1969	1756	1718	1717	1596	1659	1696	1753
11 CSPE TO WEST GROUP UTIL 4/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 GEN PUB AGEN PSC PURCH 5/	1441	1459	1453	1493	1764	1865	1990	1989	1683	1452	1445	1352	1190	1261	1578
13 IOU PSC PURCHASE 6/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 FED DIVERSITY 7/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
15 FIRM LOADS	9951	9969	9105	8713	9634	10535	10062	9251	8227	7754	7738	8482	8681	9220	9135
HYDRO RESOURCES															
16 REGULATED HYDRO	7101	5487	5787	5649	5960	7289	6347	6029	5184	5340	5254	8702	7521	6620	6390
17 INDEPENDENT HYDRO	431	429	366	384	304	236	175	195	273	433	512	707	741	445	394
18 SUS. PKNG. ADJUSTMENT 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 NON-FED CER(CSPE) TO BPA 9/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 NON-FED CER(CAN) TO BPA 10/	143	143	143	143	143	143	143	143	143	150	150	150	150	150	145
21 RESTORATION 11/	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26
	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
22 TOTAL HYDRO	7649	6033	6270	6150	6381	7642	6639	6341	5574	5897	5890	9533	8386	7189	6903
OTHER RESOURCES															
23 SMALL THERMAL & MISC	0	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	0
25 RENEWABLES 12/	27	27	27	28	29	31	32	31	31	30	30	27	27	27	29
26 COGENERATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 IMPORTS 13/	204	204	237	268	266	321	437	535	498	499	177	89	181	212	299
28 CONTRACTS IN 14/	275	275	387	387	387	387	387	387	387	387	387	275	387	275	359
29 LARGE THERMAL 15/	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
30 NON-UTILITY GENERATION 16/	43	43	44	42	47	50	50	49	48	46	46	37	47	44	45
31 RESOURCE ACQUISITIONS 17/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
32 TOTAL RESOURCES	9198	7582	7965	7875	8110	9431	8545	8343	7538	7859	7530	10962	10028	8747	8636

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															
ENERGY IN AVERAGE MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL	12 MO AVG
RESERVES & MAINTENANCE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
33 HYD SM THRM & MISC RES 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 LARGE THERMAL RESERVES 19/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 SPINNING RESERVES 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 FEDERAL HYDRO MAINT 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 NET RESOURCES	9198	7582	7965	7875	8110	9431	8545	8343	7538	7859	7530	10962	10028	8747	8636
SURPLUS/DEFICITS															
38 FIRM SURPLUS/DEFICIT	-753	-2387	-1140	-838	-1525	-1104	-1517	-908	-689	105	-208	2479	1347	-473	-499
39 EXTREME WEATHER ADJ. 22/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 FIRM S/D W/EXT WEATHER ADJ.	-753	-2387	-1140	-838	-1525	-1104	-1517	-908	-689	105	-208	2479	1347	-473	-499
41 POSS FED EXT WTHR. OBLG 23/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 FIRM S/D W/EXT WTHR. OBLIG	-753	-2387	-1140	-838	-1525	-1104	-1517	-908	-689	105	-208	2479	1347	-473	-499

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															
ENERGY IN AVERAGE MEGAWATTS	AUG	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL	12 MO
	1-15	16-31								1-15	16-30				AVG
	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
LOADS															
1 FEDERAL AGENCIES	154	154	145	149	159	177	170	171	162	150	150	143	142	152	156
2 FEDERAL GPU TRANS LOSSES	10	10	12	29	33	34	29	20	19	19	10	11	11	11	19
3 FEDERAL NGP TRANS LOSSES	101	101	96	100	119	137	141	134	117	109	109	104	104	103	114
4 USBR	162	162	109	42	2	2	2	2	4	50	50	118	152	170	68
5 DSI FIRM LOAD	2486	2486	1962	2078	2088	2488	1922	1382	1199	1049	1049	2156	2156	2464	1952
6 DSI FIRM LOSSES	65	65	51	56	61	77	60	43	35	29	29	58	58	64	55
7 SM & NON GEN PUB PURCH 1/	2518	2518	2359	1872	2291	2470	2685	2513	2292	2233	2236	1910	1967	2056	2264
	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
8 FIRM SYSTEM LOAD	5496	5496	4734	4326	4753	5385	5009	4265	3828	3639	3633	4500	4590	5020	4629
TRANSFERS OUT															
9 EXPORTS 2/	906	906	924	878	854	878	863	865	794	776	772	852	793	793	848
10 CONTRACTS OUT 3/	529	529	533	571	848	917	898	859	701	693	693	495	522	550	676
11 CSPE TO WEST GROUP UTIL 4/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 GEN PUB AGEN PSC PURCH 5/	1441	1459	1453	1493	1764	1865	1990	1989	1683	1452	1445	1352	1190	1261	1578
13 IOU PSC PURCHASE 6/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 FED DIVERSITY 7/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
15 FIRM LOADS	8372	8390	7644	7268	8219	9045	8760	7978	7006	6560	6543	7199	7095	7624	7731
HYDRO RESOURCES															
16 REGULATED HYDRO	7144	5519	5815	5678	5996	7328	6388	6052	5209	5377	5289	8742	7552	6644	6422
17 INDEPENDENT HYDRO	431	429	366	384	304	236	175	195	273	433	512	707	741	445	394
18 SUS. PKNG. ADJUSTMENT 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 NON-FED CER(CSPE) TO BPA 9/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 NON-FED CER(CAN) TO BPA 10/	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143
21 RESTORATION 11/	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26
	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
22 TOTAL HYDRO	7692	6065	6298	6179	6417	7681	6680	6364	5599	5927	5918	9566	8410	7206	6934
OTHER RESOURCES															
23 SMALL THERMAL & MISC	0	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	0
25 RENEWABLES 12/	27	27	27	28	29	31	32	31	31	30	30	27	27	27	29
26 COGENERATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 IMPORTS 13/	117	117	150	194	259	313	287	243	213	215	177	89	93	124	190
28 CONTRACTS IN 14/	275	275	387	387	387	387	387	387	387	387	387	275	387	275	359
29 LARGE THERMAL 15/	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	0	0	1000	1000	875
30 NON-UTILITY GENERATION 16/	43	43	44	42	47	50	50	49	48	46	46	37	47	44	45
31 RESOURCE ACQUISITIONS 17/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
32 TOTAL RESOURCES	9154	7527	7906	7830	8139	9462	8436	8074	7278	7605	6558	9995	9964	8676	8432

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															
ENERGY IN AVERAGE MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL	12 MO AVG
RESERVES & MAINTENANCE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
33 HYD SM THRM & MISC RES 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 LARGE THERMAL RESERVES 19/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 SPINNING RESERVES 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 FEDERAL HYDRO MAINT 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 NET RESOURCES	9154	7527	7906	7830	8139	9462	8436	8074	7278	7605	6558	9995	9964	8676	8432
SURPLUS/DEFICITS															
38 FIRM SURPLUS/DEFICIT	782	-863	262	562	-81	417	-324	96	272	1045	15	2795	2869	1052	701
39 EXTREME WEATHER ADJ. 22/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 FIRM S/D W/EXT WEATHER ADJ.	782	-863	262	562	-81	417	-324	96	272	1045	15	2795	2869	1052	701
41 POSS FED EXT WTHR. OBLG 23/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 FIRM S/D W/EXT WTHR. OBLIG	782	-863	262	562	-81	417	-324	96	272	1045	15	2795	2869	1052	701

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															
ENERGY IN AVERAGE MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL	12 MO AVG
LOADS	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
1 SYSTEM LOADS	7018	7018	6870	7287	8245	8832	9174	8669	8150	7648	7648	7199	7015	7054	7763
2 EXPORTS 1/	111	111	135	107	66	55	46	49	58	69	69	68	121	123	84
3 CONTRACTS OUT 2/	300	300	203	235	186	189	190	187	187	187	187	189	196	297	212
4 TOTAL LOADS	7429	7429	7208	7629	8497	9076	9410	8905	8395	7904	7904	7456	7332	7474	8060
RESOURCES															
5 REGULATED HYDRO	2157	1567	1153	1375	1633	1725	1431	1775	1318	1339	1381	2068	2593	2383	1723
6 INDEPENDENT HYDRO	98	101	95	107	108	171	115	100	137	173	171	192	207	142	137
7 CAN. ENT. RETURN (CSPE) 3/	-7	-7	-7	-7	-7	-7	-7	-7	-7	-6	-6	-6	-6	-7	-7
8 CAN. ENT. RETURN (CANADA)4/	-30	-30	-30	-30	-30	-30	-30	-30	-30	-31	-31	-31	-31	-31	-30
9 RESTORATION 5/	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
10 TOTAL HYDRO	2215	1628	1208	1442	1701	1856	1506	1835	1415	1472	1512	2220	2760	2484	1820
11 SMALL THERMAL & MISC 6/	3	3	3	3	3	3	3	3	3	3	3	0	2	3	3
12 COMBUSTION TURBINES 7/	231	231	235	240	242	245	252	250	247	247	247	244	240	236	242
13 CSPE PURCHASE 8/	52	52	52	52	52	52	52	52	52	50	50	50	50	50	51
14 RENEWABLES 9/	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
15 COGENERATION 10/	15	15	15	15	15	8	15	15	15	15	15	15	15	8	14
16 IMPORTS 11/	88	88	78	77	119	141	153	165	142	89	89	78	93	85	109
17 CONTRACTS IN 12/	951	951	930	967	1043	1158	1219	1192	1098	1006	1006	1267	1293	1312	1120
18 LARGE THERMAL 13/	350	350	350	350	350	350	350	350	350	350	350	186	350	350	336
19 NON-UTILITY GENERATION 14/	234	234	164	90	49	49	50	52	73	191	191	282	296	270	150
20 TOTAL RESOURCES	4145	3558	3041	3242	3580	3868	3606	3920	3401	3429	3469	4348	5105	4804	3851
21 HYD SM THRM & MISC RES 15/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 LARGE THERMAL RESERVES 16/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 PUBLIC HYDRO MAINT 17/	0	-4	-2	-5	-4	0	0	0	-2	-4	-4	-11	-3	0	-3
24 NET RESOURCES	4145	3554	3039	3237	3576	3868	3606	3920	3399	3426	3466	4336	5101	4804	3849
25 SURPLUS/DEFICIT	-3284	-3875	-4169	-4392	-4921	-5208	-5804	-4985	-4996	-4478	-4438	-3120	-2231	-2670	-4211
26 BPA PSC DIVERSIFICATION 18/	1021	1021	1099	1214	1385	1472	1423	1341	1299	1315	1315	864	819	781	1169
27 DEDICATED RESOURCES 19/	3382	2797	2356	2580	2896	3118	2792	3122	2660	2715	2759	3683	4369	4058	3122
28 BPA PWR SALE CNTRCT PUR 20/	3253	3267	3053	3112	3708	3988	4261	4085	3566	3254	3250	3035	2924	3074	3443
29 SURPLUS/DEFICIT W/PURCHASE	-31	-608	-1116	-1280	-1212	-1221	-1543	-900	-1429	-1225	-1189	-85	694	405	-768
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 SURPLUS/DEFICIT W/EXTRM WX	-31	-608	-1116	-1280	-1212	-1221	-1543	-900	-1429	-1225	-1189	-85	694	405	-768
32 POSSIBLE OBLIG ON BPA 22/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 SURPLUS/DEFICIT AFTR BPA OB	-31	-608	-1116	-1280	-1212	-1221	-1543	-900	-1429	-1225	-1189	-85	694	405	-768

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															
ENERGY IN AVERAGE MEGAWATTS	AUG	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL	12 MO
	1-15	16-31								1-15	16-30				AVG
	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
LOADS															
1 SYSTEM LOADS	7234	7234	7091	7500	8440	9007	9348	8858	8351	7860	7860	7423	7237	7275	7969
2 EXPORTS 1/	111	111	135	107	66	55	46	49	58	67	67	67	121	123	84
3 CONTRACTS OUT 2/	237	237	141	173	125	130	130	127	126	126	126	128	135	135	143
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4 TOTAL LOADS	7582	7582	7367	7780	8631	9192	9524	9034	8535	8053	8053	7618	7493	7533	8195
RESOURCES															
5 REGULATED HYDRO	2199	1618	1204	1425	1691	1792	1490	1831	1358	1371	1399	2134	2655	2415	1774
6 INDEPENDENT HYDRO	98	101	95	106	108	171	114	101	137	172	170	192	207	142	137
7 CAN. ENT. RETURN (CSPE) 3/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 CAN. ENT. RETURN (CANADA)4/	-58	-58	-58	-58	-58	-58	-58	-58	-58	-58	-58	-58	-58	-58	-58
9 RESTORATION 5/	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
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10 TOTAL HYDRO	2236	1658	1238	1470	1738	1902	1543	1871	1434	1482	1508	2265	2801	2496	1850
11 SMALL THERMAL & MISC 6/	3	3	3	3	3	3	3	3	3	3	3	0	2	3	3
12 COMBUSTION TURBINES 7/	235	235	239	245	247	249	247	245	242	242	242	239	235	231	241
13 CSPE PURCHASE 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 RENEWABLES 9/	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
15 COGENERATION 10/	15	15	15	15	15	8	15	15	15	15	15	15	15	8	14
16 IMPORTS 11/	34	34	30	19	59	75	88	97	89	33	33	26	36	24	51
17 CONTRACTS IN 12/	1037	1037	838	898	934	1030	1052	1032	936	895	894	965	1018	1039	973
18 LARGE THERMAL 13/	350	350	350	350	350	350	350	350	333	175	175	300	350	350	330
19 NON-UTILITY GENERATION 14/	234	234	164	90	49	49	50	52	73	191	191	282	296	270	150
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20 TOTAL RESOURCES	4150	3572	2883	3096	3401	3672	3354	3671	3131	3042	3067	4098	4759	4427	3617
21 HYD SM THRM & MISC RES 15/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 LARGE THERMAL RESERVES 16/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 PUBLIC HYDRO MAINT 17/	0	-4	-2	-5	-4	0	0	0	-2	-4	-4	-11	-3	0	-3
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24 NET RESOURCES	4150	3568	2881	3091	3397	3672	3354	3671	3129	3038	3063	4086	4755	4427	3614
25 SURPLUS/DEFICIT	-3432	-4014	-4486	-4689	-5234	-5520	-6170	-5364	-5406	-5015	-4990	-3532	-2738	-3106	-4581
26 BPA PSC DIVERSIFICATION 18/	639	638	692	969	1148	1237	1202	1119	1078	1070	1070	893	850	795	974
27 DEDICATED RESOURCES 19/	3645	3066	2476	2672	3004	3273	2949	3277	2758	2673	2701	3677	4289	3963	3198
28 BPA PWR SALE CNTRCT PUR 20/	3959	3977	3812	3365	4055	4335	4675	4502	3975	3685	3681	3262	3157	3317	3842
29 SURPLUS/DEFICIT W/PURCHASE	527	-36	-674	-1325	-1179	-1184	-1495	-861	-1431	-1330	-1309	-269	419	211	-739
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 SURPLUS/DEFICIT W/EXTRM WX	527	-36	-674	-1325	-1179	-1184	-1495	-861	-1431	-1330	-1309	-269	419	211	-739
32 POSSIBLE OBLIG ON BPA 22/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 SURPLUS/DEFICIT AFTR BPA OB	527	-36	-674	-1325	-1179	-1184	-1495	-861	-1431	-1330	-1309	-269	419	211	-739

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															
ENERGY IN AVERAGE MEGAWATTS	AUG	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL	12 MO
	1-15	16-31								1-15	16-30				AVG
	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
LOADS															
1 SYSTEM LOADS	7517	7517	7380	7778	8693	9236	9574	9102	8611	8134	8134	7714	7527	7561	8236
2 EXPORTS 1/	34	34	30	14	0	0	0	0	0	0	0	0	47	49	14
3 CONTRACTS OUT 2/	134	134	126	124	126	131	131	128	127	127	127	129	136	136	130
	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
4 TOTAL LOADS	7685	7685	7536	7916	8819	9367	9705	9230	8738	8261	8261	7843	7710	7746	8380
RESOURCES															
5 REGULATED HYDRO	2369	1818	1386	1602	1889	2025	1694	2027	1492	1499	1489	2358	2871	2579	1959
6 INDEPENDENT HYDRO	98	101	95	106	108	171	114	101	137	172	170	192	207	142	137
7 CAN. ENT. RETURN (CSPE) 3/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 CAN. ENT. RETURN (CANADA)4/	-70	-70	-70	-70	-70	-70	-70	-70	-70	-70	-70	-70	-70	-70	-70
9 RESTORATION 5/	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
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10 TOTAL HYDRO	2394	1846	1408	1635	1924	2123	1735	2055	1556	1598	1586	2477	3005	2648	2023
11 SMALL THERMAL & MISC 6/	3	3	3	3	3	3	3	3	3	3	3	0	2	3	3
12 COMBUSTION TURBINES 7/	228	228	231	237	239	241	251	249	246	246	246	243	239	235	240
13 CSPE PURCHASE 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 RENEWABLES 9/	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
15 COGENERATION 10/	15	15	15	15	15	8	15	15	15	15	15	15	15	8	14
16 IMPORTS 11/	18	18	13	19	59	75	88	97	89	33	33	26	36	24	48
17 CONTRACTS IN 12/	216	216	184	185	217	233	239	245	204	194	194	187	203	216	210
18 LARGE THERMAL 13/	350	350	350	350	350	350	350	350	350	350	350	186	350	350	336
19 NON-UTILITY GENERATION 14/	228	228	158	84	43	43	45	47	67	186	186	276	291	264	144
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20 TOTAL RESOURCES	3458	2910	2366	2534	2856	3082	2732	3067	2536	2631	2619	3416	4147	3754	3025
21 HYD SM THRM & MISC RES 15/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 LARGE THERMAL RESERVES 16/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 PUBLIC HYDRO MAINT 17/	0	-4	-2	-5	-4	0	0	0	-2	-4	-4	-11	-3	0	-3
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24 NET RESOURCES	3458	2906	2366	2529	2852	3082	2732	3067	2534	2627	2615	3404	4143	3754	3022
25 SURPLUS/DEFICIT	-4228	-4779	-5170	-5387	-5967	-6285	-6973	-6163	-6204	-5634	-5646	-4439	-3567	-3992	-5357
26 BPA PSC DIVERSIFICATION 18/	639	638	692	969	1148	1237	1202	1119	1078	1070	1070	893	850	795	974
27 DEDICATED RESOURCES 19/	2865	2270	1808	2002	2273	2451	2133	2492	2064	2144	2188	2788	3475	3145	2447
28 BPA PWR SALE CNTRCT PUR 20/	3959	3977	3812	3365	4055	4335	4675	4502	3975	3685	3681	3262	3157	3317	3842
29 SURPLUS/DEFICIT W/PURCHASE	-268	-802	-1358	-2023	-1911	-1949	-2298	-1661	-2229	-1949	-1965	-1176	-410	-675	-1515
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 SURPLUS/DEFICIT W/EXTRM WX	-268	-802	-1358	-2023	-1911	-1949	-2298	-1661	-2229	-1949	-1965	-1176	-410	-675	-1515
32 POSSIBLE OBLIG ON BPA 22/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 SURPLUS/DEFICIT AFTR BPA OB	-268	-802	-1358	-2023	-1911	-1949	-2298	-1661	-2229	-1949	-1965	-1176	-410	-675	-1515

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															
ENERGY IN AVERAGE MEGAWATTS	AUG	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL	12 MO
	1-15	16-31								1-15	16-30				AVG
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LOADS															
1 SYSTEM LOADS	9435	9435	9147	9454	10505	11439	11770	11276	10405	9594	9594	9367	9495	9626	10126
2 EXPORTS 1/	804	804	721	497	524	545	507	459	422	441	440	492	692	735	570
3 CONTRACTS OUT 2/	1956	1956	1971	1932	2027	2150	2188	2181	2042	1971	1936	1695	1857	1930	1990
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4 TOTAL LOADS	12195	12195	11839	11883	13056	14134	14465	13916	12869	12006	11970	11554	12044	12291	12686
RESOURCES															
5 REGULATED HYDRO	2952	2333	2002	2064	2197	2796	2630	2169	2173	2496	2569	3319	3197	2724	2537
6 INDEPENDENT HYDRO	567	588	589	536	537	602	538	546	577	658	617	670	659	600	589
7 CAN. ENT. RETURN (CSPE) 3/	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14	-13	-14
8 CAN. ENT. RETURN (CANADA)4/	-48	-48	-48	-48	-48	-48	-48	-48	-48	-46	-46	-46	-46	-46	-47
9 RESTORATION 5/	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
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10 TOTAL HYDRO	3487	2889	2559	2568	2702	3366	3136	2683	2718	3124	3156	3959	3826	3295	3095
11 SMALL THERMAL & MISC 6/	91	93	78	78	84	81	82	82	77	89	75	68	17	83	75
12 COMBUSTION TURBINES 7/	545	545	545	545	576	575	575	578	336	114	401	517	545	545	512
13 CSPE PURCHASE 8/	51	51	51	51	51	51	51	51	51	49	49	49	49	49	50
14 RENEWABLES 9/	45	45	45	45	45	45	45	45	45	45	45	0	45	45	41
15 COGENERATION 10/	666	666	666	666	666	666	666	666	616	666	666	223	666	666	625
16 IMPORTS 11/	1410	1410	1155	1151	1415	1414	1483	1462	1096	980	980	928	1362	1479	1278
17 CONTRACTS IN 12/	1922	1922	1801	1947	2131	2271	2588	2536	2321	2066	2031	1737	1786	1860	2079
18 LARGE THERMAL 13/	3816	3822	3770	3770	3770	3761	3764	3761	3690	3432	3058	2090	3362	3788	3549
19 NON-UTILITY GENERATION 14/	962	963	948	913	924	911	897	923	927	951	944	575	876	974	898
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20 TOTAL RESOURCES	12995	12406	11619	11734	12365	13142	13288	12787	11877	11516	11405	10146	12534	12785	12203
21 HYD SM THRM & MISC RES 15/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 LARGE THERMAL RESERVES 16/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 IOU HYDRO MAINTENANCE 17/	-31	-22	-7	-4	0	0	0	0	-3	-4	-4	-9	-11	-50	-10
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24 NET RESOURCES	12964	12384	11612	11730	12365	13142	13288	12787	11874	11513	11401	10138	12522	12735	12194
25 SURPLUS/DEFICIT	769	189	-227	-153	-692	-992	-1177	-1129	-995	-493	-569	-1416	478	444	-493
26 BPA PSC DIVERSIFICATION 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 DEDICATED RESOURCES 19/	7766	7175	6712	6614	6823	7512	7267	6837	6550	6711	6786	6605	7877	7545	7047
28 BPA PWR SALE CNTRCT PUR 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 SURPLUS/DEFICIT W/PURCHASE	769	189	-227	-153	-692	-992	-1177	-1129	-995	-493	-569	-1416	478	444	-493
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 SURPLUS/DEFICIT W/EXTRM WX	769	189	-227	-153	-692	-992	-1177	-1129	-995	-493	-569	-1416	478	444	-493

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															
ENERGY IN AVERAGE MEGAWATTS	AUG	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL	12 MO
	1-15	16-31								1-15	16-30				AVG
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LOADS															
1 SYSTEM LOADS	9693	9693	9399	9718	10793	11752	12125	11622	10721	9878	9878	9640	9774	9918	10419
2 EXPORTS 1/	716	716	647	425	441	450	385	363	354	368	368	400	612	670	486
3 CONTRACTS OUT 2/	754	754	758	732	627	690	640	638	616	616	581	418	544	525	628
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4 TOTAL LOADS	11163	11163	10804	10875	11861	12892	13150	12623	11691	10862	10827	10458	10930	11113	11534
RESOURCES															
5 REGULATED HYDRO	2906	2279	1947	2008	2133	2724	2573	2114	2130	2461	2547	3245	3127	2669	2481
6 INDEPENDENT HYDRO	555	575	576	525	527	590	533	542	565	644	604	658	647	580	578
7 CAN. ENT. RETURN (CSPE) 3/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 CAN. ENT. RETURN (CANADA)4/	-76	-76	-76	-76	-76	-76	-76	-76	-76	-82	-82	-82	-82	-82	-78
9 RESTORATION 5/	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
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10 TOTAL HYDRO	3415	2808	2477	2487	2614	3268	3060	2610	2649	3053	3099	3851	3722	3197	3010
11 SMALL THERMAL & MISC 6/	86	87	72	72	79	76	84	84	72	83	70	62	17	69	71
12 COMBUSTION TURBINES 7/	545	545	545	545	576	575	575	578	336	114	401	517	545	545	512
13 CSPE PURCHASE 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 RENEWABLES 9/	45	45	45	45	45	45	45	45	45	45	45	0	45	45	41
15 COGENERATION 10/	666	666	666	666	666	666	666	666	616	666	666	223	666	666	625
16 IMPORTS 11/	1277	1277	853	999	1317	1297	1236	1288	1100	970	970	1135	1296	1410	1181
17 CONTRACTS IN 12/	868	868	750	743	884	1006	931	881	741	744	709	468	499	608	759
18 LARGE THERMAL 13/	3806	3812	3760	3760	3762	3751	3781	3777	3420	2955	2688	2408	3311	3748	3509
19 NON-UTILITY GENERATION 14/	900	901	885	851	862	849	839	865	865	889	882	536	838	900	840
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20 TOTAL RESOURCES	11608	11009	10053	10168	10805	11533	11217	10794	9844	9519	9530	9200	10939	11188	10548
21 HYD SM THRM & MISC RES 15/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 LARGE THERMAL RESERVES 16/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 IOU HYDRO MAINTENANCE 17/	-31	-22	-7	-4	0	0	0	0	-3	-4	-4	-9	-11	-50	-10
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24 NET RESOURCES	11577	10987	10046	10165	10805	11533	11217	10794	9840	9515	9526	9191	10928	11138	10538
25 SURPLUS/DEFICIT	414	-176	-758	-710	-1056	-1358	-1933	-1828	-1851	-1346	-1300	-1267	-2	26	-995
26 BPA PSC DIVERSIFICATION 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 DEDICATED RESOURCES 19/	7566	6966	6344	6405	6682	7352	7166	6780	6407	6325	6518	7123	7725	7469	6928
28 BPA PWR SALE CNTRCT PUR 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 SURPLUS/DEFICIT W/PURCHASE	414	-176	-758	-710	-1056	-1358	-1933	-1828	-1851	-1346	-1300	-1267	-2	26	-995
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 SURPLUS/DEFICIT W/EXTRM WX	414	-176	-758	-710	-1056	-1358	-1933	-1828	-1851	-1346	-1300	-1267	-2	26	-995

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															
ENERGY IN AVERAGE MEGAWATTS	AUG	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	APR	MAY	JUN	JUL	12 MO
	1-15	16-31								1-15	16-30				AVG
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LOADS															
1 SYSTEM LOADS	10190	10190	9887	10221	11342	12348	12780	12191	11312	10413	10413	10157	10293	10451	10965
2 EXPORTS 1/	267	267	218	161	154	151	149	139	125	193	163	194	262	288	190
3 CONTRACTS OUT 2/	475	475	574	567	576	590	590	588	566	566	531	368	487	462	533
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4 TOTAL LOADS	10932	10932	10679	10949	12072	13089	13519	12918	12003	11172	11107	10719	11042	11201	11689
RESOURCES															
5 REGULATED HYDRO	2729	2073	1766	1832	1934	2499	2370	1919	1997	2333	2458	3023	2911	2507	2296
6 INDEPENDENT HYDRO	544	563	576	525	528	598	534	542	565	645	605	658	648	580	578
7 CAN. ENT. RETURN (CSPE) 3/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 CAN. ENT. RETURN (CANADA)4/	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64
9 RESTORATION 5/	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
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10 TOTAL HYDRO	3239	2602	2308	2323	2428	3063	2870	2427	2528	2944	3029	3647	3525	3053	2840
11 SMALL THERMAL & MISC 6/	75	77	73	73	80	83	85	84	73	84	70	63	17	70	71
12 COMBUSTION TURBINES 7/	545	545	545	545	576	575	575	578	336	114	401	517	545	545	512
13 CSPE PURCHASE 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 RENEWABLES 9/	45	45	45	45	45	45	45	45	45	45	45	0	45	45	41
15 COGENERATION 10/	666	666	666	666	666	666	666	666	616	666	666	223	666	666	625
16 IMPORTS 11/	1246	1246	978	854	955	927	986	968	769	876	876	793	1206	1321	990
17 CONTRACTS IN 12/	585	585	600	628	884	956	931	881	741	743	708	468	493	595	707
18 LARGE THERMAL 13/	3771	3775	3762	3762	3763	3778	3783	3780	3632	3461	2854	2171	3378	3751	3541
19 NON-UTILITY GENERATION 14/	890	891	881	847	856	845	830	855	853	878	871	526	826	900	832
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20 TOTAL RESOURCES	11062	10432	9858	9743	10253	10938	10771	10284	9593	9811	9520	8408	10701	10946	10159
21 HYD SM THRM & MISC RES 15/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 LARGE THERMAL RESERVES 16/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 IOU HYDRO MAINTENANCE 17/	-31	-22	-7	-4	0	0	0	0	-3	-4	-4	-9	-11	-50	-10
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24 NET RESOURCES	11031	10410	9851	9740	10253	10938	10771	10284	9590	9807	9517	8399	10689	10896	10150
25 SURPLUS/DEFICIT	99	-523	-827	-1209	-1819	-2150	-2747	-2634	-2413	-1365	-1591	-2320	-353	-305	-1539
26 BPA PSC DIVERSIFICATION 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 DEDICATED RESOURCES 19/	7428	6795	6344	6243	6435	7070	6861	6422	6161	6619	6513	6330	7486	7211	6687
28 BPA PWR SALE CNTRCT PUR 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 SURPLUS/DEFICIT W/PURCHASE	99	-523	-827	-1209	-1819	-2150	-2747	-2634	-2413	-1365	-1591	-2320	-353	-305	-1539
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 SURPLUS/DEFICIT W/EXTRM WX	99	-523	-827	-1209	-1819	-2150	-2747	-2634	-2413	-1365	-1591	-2320	-353	-305	-1539

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.