

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

MEDIUM LOADS

1999 WHITE BOOK: 12/31/99

2000- 1 OPERATING YEAR

RUN DATE: 12/31/99

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
FIRM LOADS															
1 REGIONAL FIRM LOADS 1/	20057	20057	19584	20275	22255	23779	24448	23403	22087	20793	20793	20158	20110	20311	21438
2 EXPORTS 2/	2556	2560	2463	1777	1622	1641	1726	1699	1621	1665	1664	1704	2226	2341	1920
3 FED DIVERSITY 3/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 FIRM LOADS	22613	22617	22047	22051	23877	25420	26174	25101	23708	22458	22457	21862	22336	22652	23358
NON-FIRM LOADS															
5 REGIONAL NON-FIRM LOADS 4/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 TOTAL LOADS	22613	22617	22047	22051	23877	25420	26174	25101	23708	22458	22457	21862	22336	22652	23358
HYDRO RESOURCES															
7 REGULATED HYDRO 5/	11008	9982	9071	10091	10141	11873	9433	10470	8522	9043	9006	12375	11487	11519	10375
8 INDEPENDENT HYDRO 6/	1082	1113	1034	1018	933	994	811	825	975	1235	1289	1579	1637	1192	1113
9 SUS. PKNG. ADJUSTMENT 7/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 TOTAL HYDRO	12090	11095	10105	11109	11074	12867	10244	11295	9497	10278	10295	13954	13124	12711	11488
OTHER RESOURCES															
11 SMALL THERMAL & MISC 8/	71	73	59	59	55	52	52	51	47	46	46	58	17	66	53
12 COMBUSTION TURBINES 9/	708	708	713	725	762	765	766	766	729	726	726	165	726	710	688
13 RENEWABLES 10/	78	78	78	79	80	82	83	82	82	81	81	33	78	78	76
14 COGENERATION 11/	718	718	718	718	718	711	718	718	718	718	718	210	718	711	674
15 IMPORTS 12/	1706	1707	1315	1369	1815	1901	2088	2238	1953	1752	1436	1409	1668	1787	1737
16 CENTRALIA	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	1253	667	1253	1253	1204
17 JIM BRIDGER	638	638	637	638	637	638	638	637	602	478	467	478	621	638	606
18 COLSTRIP 1 & 2	411	414	384	385	363	357	359	355	360	358	357	191	405	399	361
19 BOARDMAN	401	401	401	401	401	401	401	401	401	401	401	207	401	401	385
20 VALMY	202	202	202	202	202	202	202	202	160	202	202	160	202	202	195
21 COLSTRIP 3	588	589	568	568	553	548	549	546	550	549	548	566	0	579	514
22 WNP 2	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	0	0	1000	1000	875
23 COLSTRIP 4	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720
24 NON-UTILITY GENERATION 13/	1198	1199	1121	1016	978	970	954	979	1005	1140	1140	868	1194	1251	1056
25 FED RESOURCE ACQUIS 14/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 TOTAL RESOURCES	21782	20795	19274	20242	20611	22467	20027	21242	19077	19701	18389	19686	22127	22506	20633

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2000- 1 OPERATING YEAR

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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 REG 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 REG TRANSMISSION LOSSES 19/	-613	-586	-543	-571	-581	-634	-565	-599	-538	-555	-518	-555	-624	-633	-581
32 NET RESOURCES	21137	20183	18722	19662	20026	21834	19462	20643	18534	19139	17863	19112	21488	21823	20039
SURPLUS/DEFICITS															
33 FIRM SURPLUS/DEFICIT	-1475	-2433	-3325	-2389	-3850	-3586	-6712	-4458	-5174	-3319	-4593	-2750	-847	-829	-3319
34 TOTAL SURPLUS/DEFICIT	-1475	-2433	-3325	-2389	-3850	-3586	-6712	-4458	-5174	-3319	-4593	-2750	-847	-829	-3319

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MEDIUM LOADS

1999 WHITE BOOK: 12/31/99

2004- 5 OPERATING YEAR

RUN DATE: 12/31/99

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
FIRM LOADS															
1 REGIONAL FIRM LOADS 1/	20529	20529	20058	20747	22743	24274	25028	23984	22634	21321	21321	20686	20647	20849	21958
2 EXPORTS 2/	2290	2290	2223	1938	1645	1660	1527	1502	1461	1573	1573	1600	2013	1959	1782
3 FED DIVERSITY 3/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 FIRM LOADS	22819	22819	22281	22685	24388	25933	26555	25486	24095	22894	22894	22285	22660	22807	23741
NON-FIRM LOADS															
5 REGIONAL NON-FIRM LOADS 4/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 TOTAL LOADS	22819	22819	22281	22685	24388	25933	26555	25486	24095	22894	22894	22285	22660	22807	23741
HYDRO RESOURCES															
7 REGULATED HYDRO 5/	11048	10011	9102	10123	10181	11923	9486	10503	8549	9085	9047	12418	11502	11532	10410
8 INDEPENDENT HYDRO 6/	1087	1116	1048	1023	934	1005	819	833	975	1241	1294	1594	1640	1197	1120
9 SUS. PKNG. ADJUSTMENT 7/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 TOTAL HYDRO	12135	11127	10150	11146	11115	12928	10305	11336	9524	10326	10341	14012	13142	12729	11529
OTHER RESOURCES															
11 SMALL THERMAL & MISC 8/	60	61	58	58	54	58	59	57	47	46	45	57	17	56	52
12 COMBUSTION TURBINES 9/	712	712	717	729	766	769	770	769	733	730	730	165	726	710	691
13 RENEWABLES 10/	78	78	78	79	80	82	83	82	82	81	81	33	78	78	76
14 COGENERATION 11/	718	718	718	718	718	711	718	718	718	718	718	210	718	711	674
15 IMPORTS 12/	1556	1556	1113	1140	1418	1708	1765	1734	1395	1322	1291	1224	1415	1646	1452
16 CENTRALIA	1253	1252	1252	1253	1253	1253	1253	1253	1192	626	626	1071	1252	1253	1180
17 JIM BRIDGER	638	638	637	638	637	638	638	637	576	425	319	592	637	638	606
18 COLSTRIP 1 & 2	388	390	383	384	362	370	372	369	359	358	356	191	382	379	358
19 BOARDMAN	401	401	401	401	401	401	401	401	401	401	401	207	401	401	385
20 VALMY	211	211	211	211	211	211	211	211	169	116	106	165	211	202	195
21 COLSTRIP 3	570	572	567	567	552	557	559	556	550	548	547	566	566	564	560
22 WNP 2	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	0	0	1000	1000	875
23 COLSTRIP 4	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720
24 NON-UTILITY GENERATION 13/	1167	1168	1088	981	943	937	930	955	977	1111	1111	855	1183	1210	1028
25 FED RESOURCE ACQUIS 14/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 TOTAL RESOURCES	21607	20604	19093	20025	20230	22343	19784	20798	18442	18528	17392	20068	22447	22297	20383

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2004- 5 OPERATING YEAR

RUN DATE: 12/31/99

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 REG SPINNING RESERVES 17/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 HYDRO MAINTENANCE 18/	-31	-25	-9	-9	-4	0	0	0	-5	-7	-8	-20	-15	-50	-12
31 REG TRANSMISSION LOSSES 19/	-608	-580	-538	-564	-570	-630	-558	-587	-520	-522	-490	-565	-633	-627	-574
32 NET RESOURCES	20968	19998	18546	19451	19656	21713	19226	20211	17917	17998	16894	19483	21800	21619	19796
SURPLUS/DEFICITS															
33 FIRM SURPLUS/DEFICIT	-1851	-2821	-3735	-3233	-4733	-4221	-7329	-5275	-6177	-4896	-6000	-2802	-860	-1188	-3945
34 TOTAL SURPLUS/DEFICIT	-1851	-2821	-3735	-3233	-4733	-4221	-7329	-5275	-6177	-4896	-6000	-2802	-860	-1188	-3945

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MEDIUM LOADS

1999 WHITE BOOK: 12/31/99

2009-10 OPERATING YEAR

RUN DATE: 12/31/99

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
FIRM LOADS															
1 REGIONAL FIRM LOADS 1/	21341	21341	20869	21563	23583	25137	25922	24868	23494	22144	22144	21505	21467	21683	22798
2 EXPORTS 2/	1197	1197	1132	1023	999	1025	1021	1007	957	1008	978	992	1248	1277	1072
3 FED DIVERSITY 3/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 FIRM LOADS	22538	22538	22001	22586	24581	26162	26943	25875	24451	23151	23121	22497	22715	22960	23870
NON-FIRM LOADS															
5 REGIONAL NON-FIRM LOADS 4/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 TOTAL LOADS	22538	22538	22001	22586	24581	26162	26943	25875	24451	23151	23121	22497	22715	22960	23870
HYDRO RESOURCES															
7 REGULATED HYDRO 5/	11082	10035	9124	10147	10208	11954	9519	10523	8569	9113	9076	12463	11548	11552	10438
8 INDEPENDENT HYDRO 6/	1087	1117	1048	1024	935	1006	820	834	976	1242	1295	1602	1653	1198	1122
9 SUS. PKNG. ADJUSTMENT 7/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 TOTAL HYDRO	12169	11152	10172	11171	11143	12960	10339	11357	9545	10355	10371	14065	13201	12750	11561
OTHER RESOURCES															
11 SMALL THERMAL & MISC 8/	61	62	59	59	55	58	60	58	47	47	46	66	17	57	54
12 COMBUSTION TURBINES 9/	706	706	711	723	760	764	764	764	727	724	724	112	728	712	683
13 RENEWABLES 10/	78	78	78	79	80	82	83	82	82	81	81	33	78	78	76
14 COGENERATION 11/	718	718	718	718	718	711	718	718	718	718	718	210	718	711	674
15 IMPORTS 12/	1299	1299	902	964	1326	1368	1414	1419	1346	1165	1134	1122	1314	1452	1256
16 CENTRALIA	1252	1253	1253	1253	1252	1253	1253	1253	1192	626	626	1071	1253	1253	1180
17 JIM BRIDGER	638	638	637	638	637	638	638	637	581	478	616	519	605	638	613
18 COLSTRIP 1 & 2	390	392	384	385	364	372	374	371	361	359	358	0	407	381	346
19 BOARDMAN	401	401	401	401	401	401	401	401	401	401	401	207	401	401	385
20 VALMY	211	211	211	211	211	211	211	211	169	116	105	165	211	202	195
21 COLSTRIP 3	572	573	568	569	553	558	561	558	551	550	549	579	0	566	515
22 WNP 2	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
23 COLSTRIP 4	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720
24 NON-UTILITY GENERATION 13/	1162	1162	1084	975	939	932	915	939	959	1094	1094	844	1173	1206	1018
25 FED RESOURCE ACQUIS 14/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 TOTAL RESOURCES	21377	20365	18898	19866	20159	22028	19451	20488	18398	18434	18543	20713	21825	22127	20276

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MEDIUM LOADS

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2009-10 OPERATING YEAR

RUN DATE: 12/31/99

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 REG SPINNING RESERVES 17/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 HYDRO MAINTENANCE 18/	-31	-25	-9	-9	-4	0	0	0	-5	-7	-8	-20	-15	-50	-12
31 REG TRANSMISSION LOSSES 19/	-602	-574	-533	-560	-568	-621	-549	-578	-519	-520	-523	-584	-615	-623	-571
32 NET RESOURCES	20744	19766	18356	19297	19587	21407	18902	19910	17875	17907	18013	20110	21196	21454	19692
SURPLUS/DEFICITS															
33 FIRM SURPLUS/DEFICIT	-1794	-2772	-3645	-3289	-4995	-4755	-8041	-5964	-6577	-5244	-5109	-2387	-1520	-1506	-4178
34 TOTAL SURPLUS/DEFICIT	-1794	-2772	-3645	-3289	-4995	-4755	-8041	-5964	-6577	-5244	-5109	-2387	-1520	-1506	-4178

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. Regional exports include: BPA to Azusa, capacity sale and power sale; BPA to Banning, capacity sale and power 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 ECD entities, power sales; 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 Pasadena, power sale, capacity/energy exchange and seasonal energy exchange; BPA to Riverside, capacity/energy exchange, capacity sale and seasonal exchange; BPA to SCE, power sale, environmental storage and option capacity; BPA to Sierra Pacific for Harney and Wells; BPA to BC Hydro for Canadian Entitlement; and BPA's Northwest-Southwest Intertie losses; AVWP to Modesto, power sale; AVWP to West Kootenai, capacity sale; City of Idaho Falls to UPC for Gem State; IPC to ABC, power sale; IPC to Sierra Pacific, power sale; 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 Burbank, 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 10.0 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, and with SCE, are in power sales mode throughout the study period.
3. 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.
4. Total loads for the region include system firm loads plus Utah Power Company's interruptible load.
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.

REGIONAL FOOTNOTES (continued)

Regional Table 1

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 Corette; PSE: Crystal Mountain and Shuffleton; and SCL: Boundary.
9. Combustion turbines include: AVWP: Northeast units 1 and 2; Clark: River Road (Cogentrix); PGE: Beaver; and PSE: Whidbey Island, Whitehorn, Fredrickson, and Fredonia units 1 and 2.
10. Renewables include: AVWP: Kettle Falls; BPA: James River Wauna; Consumers: Coffin Butte; and Emerald County PUD: Short Mountain.
11. Cogeneration includes: EWEB: Weyerhaeuser's WEYCO Energy Center; PGE: Coyote Springs; and PP&L: Hermiston. Longview Fibre output is sold outside the region to WAPA.
12. Regional imports include: Colton to BPA, power exchange; other entities to BPA, power sales; PP&L (Wyoming Division) to BPA, for Southern Idaho; Pasadena to BPA, exchange energy, peak replacement energy, and seasonal replacement energy; Riverside to BPA, exchange energy, peak replacement energy, and seasonal exchange energy; Sierra Pacific to BPA for Harney and Wells; SCE to BPA, environmental storage, option energy, and option capacity peak replacement; and PowerEx to BPA for Azusa, Banning and Colton, peak replacement; BC Hydro to PSE, power sale; BC Hydro to SCL, for Ross; Basin Electric Cooperative to MPC, power sale; 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 Cowlitz County PUD, power sale; PowerEx to EWEB, power sale; SCE to PP&L, power sale; and West Kootenai to AVWP, 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 and Pasadena, and with SCE are in power sale mode, so exchanges and supplemental energy with these utilities are zero through the study horizon.
13. 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.
14. 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.

REGIONAL FOOTNOTES (continued)

Regional Table 1

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. Regional transmission losses are estimated for the region assuming the total resources, less hydro reserves, thermal reserves, spinning reserves and hydro maintenance, multiplied by .0335 for peak and .0282 for energy.

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MEDIUM LOADS

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2000- 1 OPERATING YEAR

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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
NON-UTILITY LOADS															
1 FED AGENCIES 1981 PSC 1/	147	147	139	143	151	168	162	163	155	143	143	137	136	145	149
2 USBR 1981 PSC 1/	78	78	48	23	0	0	0	1	13	39	39	72	78	102	38
3 DSI 1981 PSC 1/	2486	2486	1962	2274	2273	2273	2168	1456	776	923	923	2097	2218	2629	1961
4 FED AGENCIES 2002 PSC 2/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 USBR 2002 PSC 2/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 DSI 2002 PSC 2/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 FIRM NON-UTILITY LOADS	2711	2711	2149	2440	2424	2441	2330	1620	944	1105	1105	2306	2432	2876	2148
UTILITY TRANSFERS OUT															
8 NGP 1981 PSC SALES 1/	2129	2132	1924	1899	2319	2501	2697	2530	2295	2253	2254	1962	2009	2096	2218
9 GPU 1981 PSC SALES 1/	1270	1282	1280	1510	1777	1878	2106	2046	1744	1519	1512	1417	1255	1322	1594
10 IOU 1981 PSC SALES 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 PUB 2002 PSC SALES 2/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 IOU 2002 PSC SALES 2/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 EXPORTS 3/	1654	1658	1607	1149	1028	1047	1147	1150	1079	1125	1124	1164	1371	1425	1246
14 INTRA-REG TRANSFERS OUT 4	1234	1235	1231	1382	1618	1771	1570	1608	1462	1258	1259	1108	1279	1290	1401
15 SUPP & ENTITLE CAP OUT 5/	49	49	49	49	49	49	49	49	49	48	48	48	48	48	49
16 CSPE TO WEST GROUP UTIL 6.	99	99	99	99	99	99	99	99	99	95	95	95	95	95	98
17 FED DIVERSITY 7/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 FIRM LOADS	9146	9166	8340	8528	9314	9786	9998	9102	7671	7403	7397	8100	8490	9152	8753
HYDRO RESOURCES															
19 REGULATED HYDRO	6806	5991	5732	6079	5899	7114	5826	6275	5113	5135	4953	7686	6269	7031	6206
20 INDEPENDENT HYDRO	415	423	350	374	299	231	170	191	269	426	508	705	749	444	389
21 SUS. PKNG. ADJUSTMENT 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 NFD CER(CSPE) TO BPA 9/	22	22	22	22	22	22	22	22	22	21	21	21	21	21	22
23 NFD CER(CAN) TO BPA 10/	81	81	81	81	81	81	81	81	81	80	80	80	80	80	81
24 RESTORATION 11/	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26
25 TOTAL HYDRO	7298	6491	6159	6530	6275	7422	6073	6543	5459	5636	5536	8466	7093	7550	6671
OTHER RESOURCES															
26 SMALL THERMAL & MISC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 COMBUSTION TURBINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 RENEWABLES 12/	27	27	27	28	29	31	32	31	31	30	30	27	27	27	29
29 COGENERATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 IMPORTS 13/	249	250	280	255	267	336	453	551	488	489	173	82	174	205	306
31 INTRA-REG TRANSFERS IN 14/	549	552	742	618	617	520	387	387	454	400	401	289	401	375	478
32 SUPP & ENTITLE CAP IN 15/	48	48	48	48	48	48	48	48	48	47	47	47	47	47	48
33 LARGE THERMAL 16/	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	0	0	1000	1000	875
34 NON-UTILITY GENERATION 17/	5	5	13	13	16	19	19	19	17	16	16	15	16	13	15
35 RESOURCE ACQUISITIONS 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 TOTAL RESOURCES	9176	8373	8269	8492	8252	9377	8012	8579	7497	7618	6203	8926	8758	9217	8422

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

MEDIUM LOADS

1999 WHITE BOOK: 12/31/99

2000- 1 OPERATING YEAR

RUN DATE: 12/31/99

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 AND TRANSMISSION LOSSES															
37 HYD SM THRM & MISC RES 19/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 LARGE THERMAL RESERVES 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 SPINNING RESERVES 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 FED HYDRO MAINTENANCE 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 FED TRANSMISSION LOSSES 23	-259	-236	-233	-239	-233	-264	-226	-242	-211	-215	-175	-252	-247	-260	-238
42 NET RESOURCES	8917	8137	8036	8253	8020	9112	7786	8337	7286	7403	6028	8675	8511	8957	8185

SURPLUS/DEFICITS

43 FIRM SURPLUS/DEFICIT	-229	-1029	-304	-276	-1294	-674	-2211	-765	-386	0	-1370	574	21	-195	-569
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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. SCE TO BPA: OPTION ENERGY IS INCLUDED THROUGH 10/31/2004.

3. BPA TO SCE: OPTION CAPACITY IS INCLUDED THROUGH 10/31/2004.

4. 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

1999 WHITE BOOK: 12/31/99

2004- 5 OPERATING YEAR

RUN DATE: 12/31/99

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
NON-UTILITY LOADS															
1 FED AGENCIES 1981 PSC 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 USBR 1981 PSC 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 DSI 1981 PSC 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 FED AGENCIES 2002 PSC 2/	116	116	112	107	124	141	146	149	125	119	119	111	116	113	123
5 USBR 2002 PSC 2/	78	78	48	23	0	0	0	1	13	39	39	72	78	102	38
6 DSI 2002 PSC 2/	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440
7 FIRM NON-UTILITY LOADS	1634	1634	1600	1570	1564	1581	1586	1590	1578	1598	1598	1623	1634	1655	1601
UTILITY TRANSFERS OUT															
8 NGP 1981 PSC SALES 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 GPU 1981 PSC SALES 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 IOU 1981 PSC SALES 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 PUB 2002 PSC SALES 2/	3156	3156	4132	3734	4290	5272	6133	6293	5253	4968	4968	3105	2645	2549	4294
12 IOU 2002 PSC SALES 2/	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
13 EXPORTS 3/	1470	1470	1448	1364	1106	1132	1132	1126	1090	1213	1213	1255	1359	1257	1246
14 INTRA-REG TRANSFERS OUT 4	1173	1173	1060	1138	1469	1618	1615	1551	1337	1269	1269	1148	1368	1434	1348
15 SUPP & ENTITLE CAP OUT 5/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 CSPE TO WEST GROUP UTIL 6.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 FED DIVERSITY 7/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 FIRM LOADS	8433	8433	9240	8806	9429	10603	11466	11560	10258	10048	10048	8131	8006	7895	9490
HYDRO RESOURCES															
19 REGULATED HYDRO	6854	6025	5764	6112	5939	7158	5873	6302	5140	5176	4993	7729	6303	7058	6242
20 INDEPENDENT HYDRO	437	445	371	388	307	242	179	199	277	440	522	727	771	466	404
21 SUS. PKNG. ADJUSTMENT 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 NFD CER(CSPE) TO BPA 9/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 NFD CER(CAN) TO BPA 10/	142	142	142	142	142	142	142	142	142	140	140	140	140	140	141
24 RESTORATION 11/	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26
25 TOTAL HYDRO	7407	6586	6251	6616	6362	7516	6168	6617	5533	5730	5629	8570	7188	7638	6761
OTHER RESOURCES															
26 SMALL THERMAL & MISC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 COMBUSTION TURBINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 RENEWABLES 12/	27	27	27	28	29	31	32	31	31	30	30	27	27	27	29
29 COGENERATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 IMPORTS 13/	284	284	318	355	348	403	377	333	303	254	223	82	100	231	281
31 INTRA-REG TRANSFERS IN 14/	521	521	724	724	724	633	633	633	700	433	433	171	283	521	558
32 SUPP & ENTITLE CAP IN 15/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 LARGE THERMAL 16/	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	0	0	1000	1000	875
34 NON-UTILITY GENERATION 17/	43	43	44	42	47	50	50	49	48	46	46	37	47	44	45
35 RESOURCE ACQUISITIONS 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 TOTAL RESOURCES	9282	8461	8364	8765	8510	9633	8260	8663	7615	7493	6361	8888	8645	9461	8550

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

MEDIUM LOADS

1999 WHITE BOOK: 12/31/99

2004- 5 OPERATING YEAR

RUN DATE: 12/31/99

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 AND TRANSMISSION LOSSES															
37 HYD SM THRM & MISC RES 19/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 LARGE THERMAL RESERVES 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 SPINNING RESERVES 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 FED HYDRO MAINTENANCE 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 FED TRANSMISSION LOSSES 23	-262	-239	-236	-247	-240	-272	-233	-244	-215	-211	-179	-251	-244	-267	-241
42 NET RESOURCES	9020	8223	8128	8518	8270	9362	8027	8419	7400	7282	6182	8637	8401	9194	8309

SURPLUS/DEFICITS

43 FIRM SURPLUS/DEFICIT	587	-210	-1112	-288	-1159	-1241	-3439	-3141	-2858	-2766	-3866	506	395	1299	-1181
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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. SCE TO BPA: OPTION ENERGY IS INCLUDED THROUGH 10/31/2004.

3. BPA TO SCE: OPTION CAPACITY IS INCLUDED THROUGH 10/31/2004.

4. 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

1999 WHITE BOOK: 12/31/99

2009-10 OPERATING YEAR

RUN DATE: 12/31/99

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
NON-UTILITY LOADS															
1 FED AGENCIES 1981 PSC 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 USBR 1981 PSC 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 DSI 1981 PSC 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 FED AGENCIES 2002 PSC 2/	118	118	115	110	127	144	150	152	128	122	122	113	118	116	126
5 USBR 2002 PSC 2/	78	78	48	23	0	0	0	1	13	39	39	72	78	102	38
6 DSI 2002 PSC 2/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 FIRM NON-UTILITY LOADS	196	196	163	133	127	144	150	153	141	161	161	185	196	218	164
UTILITY TRANSFERS OUT															
8 NGP 1981 PSC SALES 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 GPU 1981 PSC SALES 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 IOU 1981 PSC SALES 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 PUB 2002 PSC SALES 2/	4401	4401	5275	4936	5654	6802	7722	7884	6642	6297	6297	4523	4097	3781	5668
12 IOU 2002 PSC SALES 2/	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
13 EXPORTS 3/	836	836	824	758	755	784	782	778	742	755	755	786	879	880	797
14 INTRA-REG TRANSFERS OUT 4	350	350	355	407	683	753	734	694	535	498	498	301	484	541	528
15 SUPP & ENTITLE CAP OUT 5/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 CSPE TO WEST GROUP UTIL 6.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 FED DIVERSITY 7/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 FIRM LOADS	7983	7983	8817	8434	9419	10683	11588	11709	10260	9911	9911	7995	7856	7620	9356
HYDRO RESOURCES															
19 REGULATED HYDRO	6888	6050	5786	6135	5966	7188	5904	6321	5158	5205	5022	7760	6327	7077	6267
20 INDEPENDENT HYDRO	437	445	371	388	307	242	179	199	277	440	522	727	771	466	404
21 SUS. PKNG. ADJUSTMENT 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 NFD CER(CSPE) TO BPA 9/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 NFD CER(CAN) TO BPA 10/	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136
24 RESTORATION 11/	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26
25 TOTAL HYDRO	7435	6605	6267	6633	6383	7540	6193	6630	5545	5755	5654	8597	7208	7653	6781
OTHER RESOURCES															
26 SMALL THERMAL & MISC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 COMBUSTION TURBINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 RENEWABLES 12/	27	27	27	28	29	31	32	31	31	30	30	27	27	27	29
29 COGENERATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 IMPORTS 13/	110	110	143	180	248	303	277	233	203	204	173	82	93	124	182
31 INTRA-REG TRANSFERS IN 14/	171	171	374	374	374	283	283	283	350	283	283	171	283	171	283
32 SUPP & ENTITLE CAP IN 15/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 LARGE THERMAL 16/	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
34 NON-UTILITY GENERATION 17/	43	43	44	42	47	50	50	49	48	46	46	37	47	44	45
35 RESOURCE ACQUISITIONS 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 TOTAL RESOURCES	8786	7956	7855	8257	8081	9207	7835	8226	7177	7318	7186	9915	8658	9019	8321

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

MEDIUM LOADS

1999 WHITE BOOK: 12/31/99

2009-10 OPERATING YEAR

RUN DATE: 12/31/99

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 AND TRANSMISSION LOSSES															
37 HYD SM THRM & MISC RES 19/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 LARGE THERMAL RESERVES 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 SPINNING RESERVES 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 FED HYDRO MAINTENANCE 22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 FED TRANSMISSION LOSSES 23	-248	-224	-222	-233	-228	-260	-221	-232	-202	-206	-203	-280	-244	-254	-235
42 NET RESOURCES	8538	7732	7633	8024	7853	8948	7614	7994	6974	7112	6984	9635	8414	8765	8086

SURPLUS/DEFICITS

43 FIRM SURPLUS/DEFICIT	555	-251	-1184	-410	-1566	-1735	-3974	-3715	-3286	-2799	-2927	1640	558	1145	-1270
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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. SCE TO BPA: OPTION ENERGY IS INCLUDED THROUGH 10/31/2004.

3. BPA TO SCE: OPTION CAPACITY IS INCLUDED THROUGH 10/31/2004.

4. 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 Federal agency, USBR, DSI, and public agency purchases under their 1981 power sales contracts. These contracts expire between June 30 and September 30, 2001.
2. BPA's Federal agency, USBR, DSI, IOU, and public agency estimated purchases under new 2002 power sales contracts. These contracts begin October 1, 2001, and area assumed to continue through the study horizon.
3. BPA's exports include: BPA to Azusa, capacity sale and power sale; BPA to Banning, capacity sale and power 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 ECD entities, power sales; 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 Pasadena, power sale, capacity/energy exchange and seasonal energy exchange; BPA to Riverside, capacity/energy exchange, capacity sale and seasonal exchange; BPA to SCE, power sale, environmental storage and option capacity; BPA to Sierra Pacific for Harney and Wells; BPA to BC Hydro for Canadian Entitlement; and BPA's Northwest-Southwest Intertie losses.
4. BPA's intraregional transfers out include: BPA to AVWP, power sale, energy sale, deferred power exchange and WNP-3 settlement; BPA to Bandon, power sale; BPA to Big Bend Electric Cooperative, power sale and summer seasonal product; BPA to Central Electric Cooperative, summer seasonal product; BPA to the City of Ashland, power sale; BPA to Clatskanie, power sale; 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, power sale and presubscription power sale; BPA to Douglas County PUD, power sale; BPA to Eugene Water and Electric Board, power sale and presubscription power sale; BPA to City of Forest Grove, power sale; BPA to Harney Electric Cooperative, summer seasonal product; BPA to Inland Power and Light, summer seasonal product; BPA to the City of Idaho Falls, power sale; 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; BPA to Midstate Electric Cooperative, summer seasonal product; BPA to Milton-Freewater, power sale; BPA to Mission Valley, summer seasonal product; BPA to Modern Electric Cooperative, power sale; BPA to Monmouth, power sale; BPA to Nespelem Valley Electric Cooperative, summer seasonal product; BPA to Northern Wasco Electric Cooperative, power sale; BPA to Okanogan, 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, seasonal power exchange, seasonal energy exchange, Southern Idaho exchange, and Centralia standby; BPA to PGE, capacity sale and power sale; BPA to PSE, Baker Head loss, power sale 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 Snohomish County PUD, power sale; BPA to Springfield Utility Board, power sale and presubscription power sale; BPA to Surprise Valley, summer seasonal product; BPA to TPU, power sale; BPA to Tillamook County PUD, power sale; BPA to United Electric Cooperative, power sale; BPA to Umatilla Electric Cooperative, summer seasonal product; BPA to U.S. Bureau of Indian Affairs-Wapato, 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.

FEDERAL SYSTEM FOOTNOTES (continued)

Federal Table 2

5. BPA's supplemental and entitlement capacity sales consist of a capacity sale to a group of northwest utilities that expires April 1, 2003.
6. 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.
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: Colton to BPA, power exchange; other entities to BPA, power sales; PP&L (Wyoming Division) to BPA, for Southern Idaho; Pasadena to BPA, exchange energy, peak replacement energy, and seasonal replacement energy; Riverside to BPA, exchange energy, peak replacement energy, and seasonal exchange energy; Sierra Pacific to BPA for Harney and Wells; SCE to BPA, environmental storage, option energy, and option capacity peak replacement; and PowerEx to BPA for Azusa, Banning and Colton, peak replacement.
14. Federal intraregional transfers in include: AVWP to BPA, WNP-3 settlement; other entities to BPA, power sale; PP&L to BPA, seasonal power exchange, surplus energy exchange and peak replacement; PGE to BPA, peak replacement; and PSE to BPA, WNP-3 settlement.
15. BPA supplemental and entitlement capacity in is the off-peak replacement energy component of BPA's supplemental and entitlement capacity sale to a group of Northwest utilities, which expires April 1, 2001.
16. Federal large thermal includes the generation from WNP-2, operated by ENW.
17. 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).
18. 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.
19. Hydro, small thermal and miscellaneous resources, and combustion turbine reserve requirements are estimated at 5 percent of the Federal capacity of these resources.
20. Large thermal reserve requirements are estimated at 15 percent of the WNP-2 nuclear project.

FEDERAL SYSTEM FOOTNOTES (continued)

Federal Table 2

21. Federal spinning reserve is the reserve generating capacity maintained to provide a regulating margin for the automatic generation and frequency control of power generation.
22. 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.
23. Federal transmission losses are estimated assuming the total Federal resources less hydro reserves, thermal reserves, spinning reserves, and hydro maintenance multiplied by .0282 for energy and .0335 for peak.

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

1999 WHITE BOOK: 12/31/99

2000- 1 OPERATING YEAR

RUN DATE: 12/31/99

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	7070	7070	6923	7332	8285	8867	9210	8710	8192	7693	7693	7248	7062	7104	7808
2 EXPORTS 1/	111	111	135	107	66	55	46	49	58	67	67	67	121	123	84
3 INTRA-REG TRANSFERS OUT 2/	328	328	229	264	195	199	206	203	202	206	206	213	227	331	234
4 TOTAL LOADS	7509	7509	7287	7703	8546	9121	9462	8962	8452	7966	7966	7528	7410	7558	8125
RESOURCES															
5 REGULATED HYDRO	1754	1495	1221	1626	1752	1903	1268	1866	1177	1397	1509	1649	2184	1837	1630
6 INDEPENDENT HYDRO	119	121	114	124	124	190	132	117	158	194	192	213	228	163	156
7 CAN. ENT. RETURN (CSPE) 3/	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
8 CAN. ENT. RETURN (CANADA)4/	-29	-29	-29	-29	-29	-28	-29	-29	-29	-29	-30	-29	-29	-30	-29
9 RESTORATION 5/	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
10 TOTAL HYDRO	1835	1578	1297	1712	1838	2056	1362	1945	1297	1553	1662	1824	2374	1961	1748
11 SMALL THERMAL & MISC 6/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 COMBUSTION TURBINES 7/	221	221	226	238	244	248	249	246	242	239	239	131	239	223	229
13 CSPE PURCHASE 8/	50	50	50	50	50	50	50	50	50	47	47	47	47	47	49
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/	141	141	131	131	173	195	207	219	196	143	143	132	147	139	163
17 INTRA-REG TRANSFERS IN 12/	1096	1095	1066	1102	1204	1292	1291	1300	1161	1081	1081	1363	1337	1386	1223
18 LARGE THERMAL 13/	350	350	350	350	350	350	350	350	350	350	350	186	350	350	336
19 NON-UTILITY GENERATION 14/	236	236	165	92	50	51	52	54	75	193	193	284	298	271	152
20 TOTAL RESOURCES	3950	3692	3306	3696	3930	4256	3582	4185	3392	3627	3736	3988	4813	4391	3920
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 11/	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	3950	3688	3304	3691	3926	4256	3582	4185	3390	3623	3732	3977	4810	4391	3917
25 SURPLUS/DEFICIT	-3559	-3821	-3983	-4012	-4620	-4865	-5880	-4777	-5062	-4343	-4234	-3551	-2600	-3167	-4208
26 BPA PSC DIVERSIFICATION 18/	1012	1012	1089	1137	1191	1247	1205	1111	1120	1056	1056	907	756	721	1046
27 DEDICATED RESOURCES 19/	2906	2651	2351	2636	2784	3045	2367	2953	2310	2601	2707	3021	3831	3365	2841
28 BPA 1981 PSC SALES 20/	3399	3414	3205	3409	4096	4379	4803	4576	4038	3772	3766	3379	3265	3418	3812
29 BPA 2002 PSC SALES 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 SURPLUS/DEFICIT W/PURCHAS	-160	-406	-778	-603	-524	-486	-1077	-201	-1024	-570	-467	-172	664	251	-396

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

1999 WHITE BOOK: 12/31/99

2004- 5 OPERATING YEAR

RUN DATE: 12/31/99

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	7291	7291	7150	7556	8490	9054	9395	8909	8404	7916	7916	7480	7296	7333	8023
2 EXPORTS 1/	111	111	135	107	66	55	26	26	26	26	26	26	80	82	64
3 INTRA-REG TRANSFERS OUT 2/	160	160	151	151	133	138	145	141	140	143	143	151	164	164	148
4 TOTAL LOADS	7562	7562	7436	7814	8689	9247	9566	9076	8570	8085	8085	7657	7540	7579	8235
RESOURCES															
5 REGULATED HYDRO	1791	1548	1269	1677	1804	1968	1318	1922	1212	1426	1521	1697	2220	1861	1674
6 INDEPENDENT HYDRO	119	121	114	123	124	190	131	118	158	193	191	213	228	163	156
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/	-57	-57	-57	-56	-57	-56	-57	-56	-56	-56	-56	-56	-56	-56	-56
9 RESTORATION 5/	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
10 TOTAL HYDRO	1850	1609	1323	1741	1868	2099	1389	1981	1311	1560	1653	1851	2389	1965	1771
11 SMALL THERMAL & MISC 6/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 COMBUSTION TURBINES 7/	225	225	230	242	248	252	253	249	246	243	243	131	239	223	232
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 INTRA-REG TRANSFERS IN 12/	1053	1053	906	917	979	1074	1092	1071	971	930	930	997	1075	1095	1013
18 LARGE THERMAL 13/	350	350	350	350	350	350	350	350	333	175	175	300	350	350	330
19 NON-UTILITY GENERATION 14/	236	236	165	92	50	51	52	54	75	193	193	284	298	271	152
20 TOTAL RESOURCES	3753	3512	3008	3382	3575	3915	3245	3823	3046	3155	3248	3610	4408	3942	3566
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 11/	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	3753	3508	3006	3377	3571	3915	3245	3823	3044	3151	3244	3599	4405	3942	3563
25 SURPLUS/DEFICIT	-3809	-4054	-4430	-4437	-5118	-5332	-6321	-5253	-5526	-4934	-4841	-4058	-3135	-3637	-4672
26 BPA PSC DIVERSIFICATION 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 DEDICATED RESOURCES 19/	3254	3014	2562	2950	3152	3486	2815	3397	2649	2784	2873	3180	3925	3436	3126
28 BPA 1981 PSC SALES 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 BPA 2002 PSC SALES 21/	3156	3156	4132	3734	4290	5272	6133	6293	5253	4968	4968	3105	2645	2549	4294
30 SURPLUS/DEFICIT W/PURCHAS	-653	-898	-298	-703	-828	-60	-188	1040	-273	34	127	-953	-490	-1088	-378

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

1999 WHITE BOOK: 12/31/99

2009-10 OPERATING YEAR

RUN DATE: 12/31/99

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	7578	7578	7441	7837	8745	9283	9622	9153	8666	8191	8191	7774	7589	7622	8292
2 EXPORTS 1/	34	34	30	14	0	0	0	0	0	0	0	0	47	49	14
3 INTRA-REG TRANSFERS OUT 2/	161	161	152	152	134	139	145	142	129	134	134	143	157	158	145
4 TOTAL LOADS	7773	7773	7623	8003	8879	9422	9767	9295	8795	8325	8325	7917	7793	7829	8452
RESOURCES															
5 REGULATED HYDRO	1914	1665	1441	1862	2209	2480	1709	2360	1484	1539	1650	1960	2501	2168	1963
6 INDEPENDENT HYDRO	119	121	114	123	124	190	131	118	158	193	191	213	228	163	156
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/	-65	-65	-65	-65	-81	-81	-81	-81	-81	-81	-81	-81	-81	-81	-77
9 RESTORATION 5/	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
10 TOTAL HYDRO	1965	1718	1487	1917	2249	2586	1756	2394	1558	1648	1757	2089	2645	2247	2039
11 SMALL THERMAL & MISC 6/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 COMBUSTION TURBINES 7/	219	219	224	236	242	247	247	244	240	237	237	78	241	225	223
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 INTRA-REG TRANSFERS IN 12/	277	277	248	234	241	257	259	262	219	208	208	198	239	250	241
18 LARGE THERMAL 13/	350	350	350	350	350	350	350	350	333	175	175	300	350	350	330
19 NON-UTILITY GENERATION 14/	230	230	160	86	45	45	46	48	69	187	187	278	292	266	146
20 TOTAL RESOURCES	3080	2833	2503	2863	3207	3574	2767	3416	2529	2509	2618	2990	3824	3376	3047
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 11/	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	3080	2829	2501	2858	3203	3574	2767	3416	2527	2505	2614	2979	3821	3376	3045
25 SURPLUS/DEFICIT	-4693	-4944	-5122	-5145	-5676	-5848	-7000	-5879	-6268	-5820	-5711	-4938	-3972	-4453	-5407
26 BPA PSC DIVERSIFICATION 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 DEDICATED RESOURCES 19/	2505	2268	1904	2264	2372	2599	1947	2538	1890	2117	2204	2364	3115	2599	2345
28 BPA 1981 PSC SALES 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 BPA 2002 PSC SALES 21/	4401	4401	5275	4936	5654	6802	7722	7884	6642	6297	6297	4523	4097	3781	5668
30 SURPLUS/DEFICIT W/PURCHAS	-292	-543	153	-209	-22	954	722	2005	374	477	586	-415	125	-672	261

PUBLIC AGENCIES FOOTNOTES

Public Agencies Table 3

1. Public agencies' exports include: AVWP to Modesto, power sale; AVWP to West Kootenai, capacity sale; SCL to NCPA, seasonal power exchange; Snohomish County PUD to SMUD, power sale; and TPU to WAPA, power sale.
2. Public agencies' intraregional transfers out include: AVWP to BPA, WNP-3 settlement; AVWP to Cheney, power sale; AVWP to Clark Public Utility, power sale; AVWP to Eugene Water and Electric Board, power sale; AVWP to Montana Power Company, power sale; AVWP to other entities, power sale; AVWP to PP&L, power sale and seasonal power exchange; AVWP to Pend Oreille, power sale; AVWP to PGE, power sale and capacity sale; AVWP to PSE, power sale; AVWP to Snohomish County PUD, power sale; Chelan County PUD to PGE, capacity/energy exchange; Colockum to PP&L, capacity/energy exchange; Douglas County PUD to PGE, power sale; EWEB to PGE, capacity sale; Grant County PUD to PP&L, power sale; Grays Harbor PUD to PSE, Centralia exchange; Lewis County PUD to PSE, power sale; Mason County PUD #3 to PSE, power sale; Northern Wasco PUD to PSE, power sale; other entities to EWEB, power sale; other entities to AVWP, power sale; Pend Oreille to Pondaray Mill, power sale; Pend Oreille to SCL, power sale; SCL to IPC, seasonal power exchange; SCL to Pend Oreille, power sale; SCL to TPU, energy sale; Snohomish County PUD to PSE, power sale; 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: 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.
11. Public agencies' imports include: BC Hydro to SCL, Ross replacement; PowerEx to EWEB, power sale; and NCPA to SCL, seasonal power exchange.

PUBLIC AGENCIES FOOTNOTES (continued)

Public Agencies Table 3

12. Public agencies' intraregional transfers include: AVWP to the city of Cheney, Washington, power sale; AVWP to Clark Public Utilities, power sale; AVWP to EWEB, Cooperative, summer seasonal product; BPA to city of Ashland, power sale; BPA to city of Idaho Falls, power sale; BPA to Clatskanie, power sale; 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 presubscription power sale; BPA to Douglas County PUD, power sale; BPA to EWEB, power sale and presubscription power sale; BPA to city of Forest Grove, power sale; BPA to Harney Electric Cooperative, summer seasonal product; BPA to Inland Power and Light, summer seasonal product; 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; 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; 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 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 and presubscription power sale; BPA to Surprise Valley Electric Corporation, summer seasonal product; BPA to Tillamook, power sale; BPA to TPU, 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 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; MPC to Glacier Electric Cooperative, power sale; Northern Wasco County PUD to PSE, power sale; other entities to EWEB, power sale; PP&L to Clark Public Utilities, power sale; PP&L to Colockum, exchange energy and peak replacement; PP&L to small, nongenerating public utilities, power sales; 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 and peak replacement; PGE to PNGC, power 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.

PUBLIC AGENCIES FOOTNOTES (continued)

Public Agencies Table 3

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. 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 under the 1981 power sales contract. This reduces each utility's power sales contract purchase from BPA, and expires between June 30 and September 30, 2001.
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. BPA 1981 power sales contract purchases include public agencies' firm power purchases under their 1981 power sales contracts. This requirement is defined as the sum of the differences between each utility's firm load and its dedicated resources.
21. BPA's 2002 power sales contract purchases are estimates from the 2002 BPA Rate Case. These contracts begin October 1, 2001, and were not disaggregated to the utility level for this analysis.

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

1999 WHITE BOOK: 12/31/99

2000- 1 OPERATING YEAR

RUN DATE: 12/31/99

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	9393	9393	9105	9408	10450	11375	11707	11160	10358	9549	9549	9332	9465	9591	10074
2 EXPORTS 1/	656	656	586	386	393	404	398	365	349	338	338	386	599	658	460
3 INTRA-REG TRANSFERS OUT 2/	1971	1971	2082	2148	2312	2311	2241	2251	2126	1993	1993	1794	1907	1848	2082
4 TOTAL LOADS	12020	12020	11773	11942	13155	14090	14346	13776	12833	11880	11880	11512	11971	12097	12616
RESOURCES															
5 REGULATED HYDRO	2307	2356	2004	2263	2366	2704	2220	2196	2146	2425	2459	2901	2900	2520	2416
6 INDEPENDENT HYDRO	548	569	570	520	510	573	509	517	548	615	589	661	660	585	568
7 CAN. ENT. RETURN (CSPE) 3/	-14	-14	-14	-14	-14	-14	-14	-14	-14	-13	-13	-13	-13	-13	-14
8 CAN. ENT. RETURN (CANADA)4/	-47	-47	-47	-47	-47	-48	-47	-47	-47	-46	-45	-46	-46	-45	-47
9 RESTORATION 5/	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
10 TOTAL HYDRO	2824	2894	2543	2752	2845	3245	2698	2682	2663	3011	3020	3533	3531	3077	2954
11 SMALL THERMAL & MISC 6/	71	73	59	59	55	52	52	51	47	46	46	58	17	66	53
12 COMBUSTION TURBINES 7/	487	487	487	487	518	517	517	520	487	487	487	34	487	487	460
13 CSPE PURCHASE 8/	49	49	49	49	49	49	49	49	49	48	48	48	48	48	49
14 RENEWABLES 9/	45	45	45	45	45	45	45	45	45	45	45	0	45	45	41
15 COGENERATION 10/	667	667	667	667	667	667	667	667	667	667	667	159	667	667	625
16 IMPORTS 11/	1316	1316	904	983	1375	1370	1428	1468	1269	1120	1120	1195	1347	1443	1268
17 INTRA-REG TRANSFERS IN 12/	1677	1677	1557	1778	2004	2164	1924	1847	1649	1478	1480	1259	1472	1629	1703
18 LARGE THERMAL 13/	3765	3768	3716	3718	3680	3670	3673	3665	3597	3512	3499	2752	3153	3743	3553
19 NON-UTILITY GENERATION 14/	957	958	943	911	912	900	883	906	913	931	931	569	880	967	889
20 TOTAL RESOURCES	11858	11934	10971	11450	12151	12680	11936	11900	11386	11346	11343	9607	11648	12173	11595
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 11/	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
24 NET RESOURCES	11827	11912	10964	11446	12151	12680	11936	11900	11383	11342	11339	9599	11636	12123	11586
25 SURPLUS/DEFICIT	-193	-108	-809	-496	-1004	-1410	-2410	-1875	-1450	-538	-540	-1913	-335	26	-1030
26 BPA PSC DIVERSIFICATION 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 DEDICATED RESOURCES 19/	7004	7079	6442	6739	6988	7416	6858	6914	6815	6936	6932	6422	7531	7296	6950
28 BPA 1981 PSC SALES 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 BPA 2002 PSC SALES 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 SURPLUS/DEFICIT W/PURCHAS	-193	-108	-809	-496	-1004	-1410	-2410	-1875	-1450	-538	-540	-1913	-335	26	-1030

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															
1999 WHITE BOOK: 12/31/99															
2004- 5 OPERATING YEAR															
RUN DATE: 12/31/99															
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
	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
LOADS															
1 SYSTEM LOADS	9675	9675	9379	9692	10760	11710	12118	11556	10723	9878	9878	9654	9788	9932	10405
2 EXPORTS 1/	574	574	505	332	338	338	234	215	210	199	199	232	439	485	342
3 INTRA-REG TRANSFERS OUT 2/	486	486	677	670	656	578	574	570	612	545	545	429	580	473	571
4 TOTAL LOADS	10735	10735	10561	10694	11754	12626	12926	12341	11545	10622	10622	10315	10807	10890	11318
RESOURCES															
5 REGULATED HYDRO	2262	2298	1955	2211	2314	2645	2176	2146	2111	2397	2448	2853	2845	2482	2370
6 INDEPENDENT HYDRO	531	550	563	512	503	573	509	516	540	608	581	654	641	568	559
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	-77	-76	-77	-76	-77	-77	-75	-75	-75	-75	-75	-76
9 RESTORATION 5/	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
10 TOTAL HYDRO	2747	2802	2472	2676	2771	3171	2639	2615	2604	2960	2984	3462	3441	3005	2884
11 SMALL THERMAL & MISC 6/	60	61	58	58	54	58	59	57	47	46	45	57	17	56	52
12 COMBUSTION TURBINES 7/	487	487	487	487	518	517	517	520	487	487	487	34	487	487	460
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/	667	667	667	667	667	667	667	667	667	667	667	159	667	667	625
16 IMPORTS 11/	1254	1254	782	766	1011	1230	1300	1304	1003	1035	1035	1116	1279	1391	1123
17 INTRA-REG TRANSFERS IN 12/	439	439	452	512	749	821	803	752	612	588	588	404	598	649	615
18 LARGE THERMAL 13/	3732	3735	3722	3725	3687	3701	3705	3698	3535	2920	2801	3161	3720	3708	3580
19 NON-UTILITY GENERATION 14/	888	889	879	847	846	836	828	852	854	872	872	534	838	895	831
20 TOTAL RESOURCES	10319	10379	9564	9783	10348	11046	10563	10510	9854	9620	9524	8927	11092	10903	10209
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 11/	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	-9
24 NET RESOURCES	10288	10357	9557	9779	10348	11046	10563	10510	9851	9616	9520	8918	11080	10853	10200
25 SURPLUS/DEFICIT	-447	-378	-1004	-915	-1406	-1580	-2363	-1832	-1694	-1006	-1102	-1397	273	-36	-1118
26 BPA PSC DIVERSIFICATION 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 DEDICATED RESOURCES 19/	6893	6952	6260	6458	6592	7236	6702	6703	6435	6294	6209	6688	7518	7203	6747
28 BPA 1981 PSC SALES 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 BPA 2002 PSC SALES 21/	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
30 SURPLUS/DEFICIT W/PURCHAS	553	622	-4	85	-406	-580	-1363	-832	-694	-6	-102	-397	1273	964	-118

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

1999 WHITE BOOK: 12/31/99

2009-10 OPERATING YEAR

RUN DATE: 12/31/99

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	10198	10198	9896	10224	11342	12341	12781	12193	11318	10423	10423	10177	10313	10474	10973
2 EXPORTS 1/	192	192	143	116	109	106	104	94	80	118	88	119	187	213	130
3 INTRA-REG TRANSFERS OUT 2/	422	422	620	620	606	515	511	509	562	495	495	379	524	407	514
4 TOTAL LOADS	10812	10812	10659	10960	12057	12962	13396	12796	11960	11036	11006	10675	11024	11094	11618
RESOURCES															
5 REGULATED HYDRO	2139	2180	1783	2027	1909	2134	1787	1709	1841	2283	2319	2604	2586	2176	2085
6 INDEPENDENT HYDRO	531	551	563	513	504	574	510	517	541	609	582	662	654	569	562
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/	-62	-62	-62	-62	-46	-46	-46	-46	-46	-46	-46	-46	-46	-46	-50
9 RESTORATION 5/	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
10 TOTAL HYDRO	2638	2699	2314	2508	2397	2692	2281	2210	2366	2876	2885	3250	3224	2729	2627
11 SMALL THERMAL & MISC 6/	61	62	59	59	55	58	60	58	47	47	46	66	17	57	54
12 COMBUSTION TURBINES 7/	487	487	487	487	518	517	517	520	487	487	487	34	487	487	460
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/	667	667	667	667	667	667	667	667	667	667	667	159	667	667	625
16 IMPORTS 11/	1171	1171	746	765	1019	990	1049	1089	1054	928	928	1014	1185	1304	1026
17 INTRA-REG TRANSFERS IN 12/	426	426	446	512	749	808	789	741	598	577	577	395	584	626	604
18 LARGE THERMAL 13/	3735	3739	3725	3728	3689	3704	3710	3702	3543	2976	3101	2910	3148	3712	3529
19 NON-UTILITY GENERATION 14/	889	889	880	847	847	837	819	842	842	861	861	529	834	896	827
20 TOTAL RESOURCES	10119	10185	9369	9618	9986	10318	9937	9874	9649	9464	9597	8357	10191	10523	9792
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 11/	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	-9
24 NET RESOURCES	10088	10163	9362	9615	9986	10318	9937	9874	9646	9461	9593	8348	10180	10473	9783
25 SURPLUS/DEFICIT	-724	-649	-1297	-1345	-2071	-2645	-3460	-2922	-2315	-1575	-1412	-2327	-844	-621	-1835
26 BPA PSC DIVERSIFICATION 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 DEDICATED RESOURCES 19/	6685	6750	6055	6281	6359	6652	6229	6219	6247	6152	6297	6117	7033	6819	6413
28 BPA 1981 PSC SALES 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 BPA 2002 PSC SALES 21/	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
30 SURPLUS/DEFICIT W/PURCHAS	1476	1551	903	855	129	-445	-1260	-722	-115	625	788	-127	1356	1579	365

INVESTOR-OWNED UTILITIES FOOTNOTES

Investor-Owned Utilities Table 4

1. IOUs' exports include: AVWP to Modesto, power sale; AVWP to West Kootenai, capacity sale; IPC to ABC, power sale; IPC to Sierra Pacific, power sale and for Harney and Wells; IPC to Truckee/Donner, power sale; IPC to City of Washington, Utah, 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 Burbank, power sale; PGE to Glendale, power sale and seasonal power exchange; and PSE to PG&E, seasonal power exchange.
2. IOUs' intraregional transfers out include: AVWP to BPA, WNP-3 settlement; AVWP to City of Cheney, Washington, power sale; AVWP to Clark Public Utilities, power sale; AVWP to EWEB, power sale; AVWP to MPC, power sale; AVWP to other entities, power sale; AVWP to PP&L, power sale and seasonal power exchange; AVWP to Pend Oreille, power sale; AVWP to PGE, power sale and capacity sale; AVWP to PSE, power sale; AVWP to Snohomish County PUD, power sale; IPC to AVWP, 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 Glacier, power sale; MPC to IPC, seasonal power exchange; MPC to PSE, power sale; other entities to AVWP, power sale; other entities to BPA, power sale; other entities to EWEB, power sale; PGE to BPA, peak replacement; PP&L to AVWP, seasonal power exchange; PP&L to BPA, seasonal power exchange, seasonal energy exchange and peak replacement; PP&L to Clark Public Utilities, power sale; 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 AVWP, 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 and peak replacement; PGE to PNGC, power sale; PGE to PP&L, Cove replacement; PGE to Snohomish County PUD, power sale; PSE to AVWP, power sale; PSE to BPA, WNP-3 settlement; and PSE to Grays Harbor PUD, Centralia exchange.
3. Canadian Entitlement Return non-Federal to the Columbia River Power Exchange (CSPE) reflects the IOUs' obligation of Canadian Entitlement allocation to CSPE, which expires April 1, 2003.
4. Canadian Entitlement Return non-Federal to Canada reflects the IOUs' obligation of Canadian Entitlement allocation to Canada, which begins April 1, 1998.
5. Restoration is the obligation of the IOUs 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.

INVESTOR-OWNED UTILITIES FOOTNOTES (continued)

Investor-Owned Utilities Table 4

6. IOUs' existing small thermal and miscellaneous resources include: IPC: Energy Management Systems; PSE: Shuffleton and Crystal Mountain; and MPC: its portion of Corette in the region.
7. IOUs' combustion turbines include: AVWP: Northeastern units 1 and 2; PGE: Beaver; and PSE: Whidbey Island, Whitehorn, Fredrickson, and Fredonia 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. IOUs' renewable resources include AVWP: Kettle Falls.
10. IOUs' cogeneration resources include PGE: Coyote Springs; and PP&L, Hermiston.
11. IOUs' 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; and West Kootenai to AVWP, peak replacement.
12. IOUs' intraregional transfers in include: AVWP to MPC, power sale; AVWP to PP&L, power sale and seasonal power exchange; AVWP to PGE, capacity sale and power sale; AVWP to PSE, power sale; BPA to AVWP, power sale, deferred power exchange, energy sale, and WNP-3 settlement; BPA to PP&L, capacity sale, Southern Idaho exchange, seasonal power exchange, seasonal energy exchange, and Centralia standby; BPA to PGE, capacity sale and power sale including Canby; BPA to PSE, power sale, Baker Head loss, and WNP-3 settlement; Chelan to PGE, capacity/energy exchange; Colockum to PP&L, capacity/energy exchange; Douglas County PUD to PGE, power sale; EWEB to PGE, capacity sale; Grant to PP&L, power sale; Grays Harbor to PSE, Centralia exchange; IPC to AVWP, 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; MPC to IPC, seasonal power exchange; MPC to PSE, power sale; Northern Wasco County PUD to PSE, power sale; other entities to AVWP, power sale; PP&L to AVWP, seasonal power exchange; PP&L to PSE, power sale; PGE to AVWP, peak replacement; PGE to PP&L, Cove replacement; PSE to AVWP, power sale; SCL to IPC, seasonal power exchange; and Snohomish County PUD to PSE, power sale.
13. IOUs' large thermal includes the IOUs' shares of Centralia, Jim Bridger, Colstrip 1 and 2, Colstrip 3 and 4, Boardman Coal, and Valmy.
14. IOUs' 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 IOUs: Idaho Power Company, Montana Power Company, Pacific Power and Light, Portland General Electric, Puget Sound Power and Light, and Avista Corporation, Washington Water Power Division (AVWP).
15. Hydro, small thermal and miscellaneous resources, and combustion turbine reserve requirements are 5 percent of the IOUs' share in the capacity of these resources.
16. Large thermal reserve requirements are 15 percent of the IOUs' share of Pacific Northwest thermal resources and the Pacific Power and Light import from Wyoming.

INVESTOR-OWNED UTILITIES FOOTNOTES (continued)

Investor-Owned Utilities Table 4

17. Hydro maintenance is the sum of all IOU 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. BPA 1981 power sales contract sales include the IOUs' 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. BPA 2002 power sales contract purchases are estimated from the 2002 BPA Rate Case. These contracts begin October 1, 2001, and were not disaggregated to utility levels for this analysis.