



Catalogue no. 57-204-XIE

Electric Power Capability and Load

2003



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Statistics Canada
Manufacturing, Construction & Energy Division
Energy Section

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Published by authority of the Minister responsible for Statistics Canada

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July 2006

Catalogue no. 57-204-XIE

ISSN 1492-3505

Frequency: Annual

Ottawa

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Symbols

The following standard symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0 ^s	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
P	preliminary
r	revised
x	suppressed to meet the confidentiality requirements of the <i>Statistics Act</i>
E	use with caution
F	too unreliable to be published

Metric measures

TW.h. (terawatt-hour) = Watt-hour x 10¹²

GW.h. (gigawatt-hour) = Watt-hour x 10⁹

MW.h. (megawatt-hour) = Watt-hour x 10⁶

KW.h. (kilowatt-hour) = Watt-hour x 10³

Acknowledgements

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Table of contents

Introduction 6

Tables – Electric power capability and load, actual (Winter)

Table 1 Canada..... 8

Table 2a Newfoundland (Island) 9

Table 2b Newfoundland (Labrador)..... 10

Table 2c Newfoundland and Labrador 11

Table 3 Prince Edward Island 12

Table 4 Nova Scotia..... 13

Table 5 New Brunswick..... 14

Table 6 Québec..... 15

Table 7 Ontario 16

Table 8 Manitoba 17

Table 9 Saskatchewan 18

Table 10 Alberta..... 19

Table 11 British Columbia..... 20

Table 12 Yukon 21

Table 13 Northwest Territories 22

Table 14 Nunavut..... 23

This table summarizes capability, firm power peak load, reserve, generation, interprovincial and international receipts and deliveries and energy requirements.

Introduction

This report presents the results of the 50th annual Electric Power Statistics Capability and Load Survey.

Data quality and methodology

Data for this publication comes from the 2003 Electric Power Capability and Load Survey. The survey is completed by the electric utility that is responsible for most of the generation, transmission and distribution in the province or territory. The data therefore consists of actual data from the responding electric utility and estimates for other electric power producers in the province or territory. If estimates are used, net generating capability is assumed to be 90% of the name-plate rating obtained from the Generating Stations survey, while peak met is estimated at 67% of net generating capability.

Electric energy figures come from the Electricity Supply/Disposition Annual survey. Major utility and industrial generators of electricity are surveyed directly, while data for the remainder are estimated. These respondents have approximately 98% of total generating capability and produce 99% of all electricity in Canada. In addition, they account for 100% of imports, exports and interprovincial movements.

Review of survey results

Total net generating capability in 2003/2004 increased by 2.3% to 108 533 MW. Increased generating capacity of hydroelectric, nuclear and combustion turbine is the main reason for this increase.

The indicated peak within Canada increased by 7.4% in 2003/2004.

Total electric energy available within Canada increased by 0.4% to 562 748 GW.h in 2003 from 560 695 GW.h in 2002.

It should be noted that the energy data reported are not affected by the peak load capability and therefore these data may be considered a better measure of the growth of the electric power industry.

Notes:

Canada – Since the movements of power over a province's borders are measured at the time of the province's peak (see Concepts and Definition), receipts and deliveries do not balance. For this reason, Canada level data omit both interprovincial movements of power and the losses associated with these movements. As a consequence, although Canada data balances in an arithmetic sense, they are not the sum of provincial figures.

Further, due to timing, transmission limitations, etc., data for reserves are not appropriate.

Concepts and definitions

Prior to 1980, respondents reported capability and load data relating to their calendar year peak. Since 1980 respondents have reported for the day of the peak for the largest electric utility in the province or territory. In 1987 calendar year peak was replaced by winter peak (Nov. Feb.).

The change was made in an effort to eliminate exaggerated changes in the peak which resulted solely from the vagaries of weather, i.e. very cold in November-December as opposed to January-February.

All data for energy are on a calendar year basis.

The days chosen for the winter 2003-2004 were as follows:

Newfoundland – Labrador	January 23
– Island	February 16
Prince Edward Island	December 22
Nova Scotia	January 8
New Brunswick	January 16
Quebec	January 15
Ontario	January 15
Manitoba	January 29
Saskatchewan	December 20
Alberta	December 15
British Columbia	January 5
Yukon	January 27
Northwest Territories	January 31
Nunavut	January 31

Other **generating capability and firm power peak load** concepts are unchanged from previous reports. Generating capability measures the expected power of all available generating facilities of the province or territory at the time of one hour firm peak load for each province or territory. This may differ from the generating capacity as measured by the name plate rating.

The variations between generating capability and generating capacity may be caused by high water levels in reservoirs resulting in a higher water head and greater generation than the name plate capacity, the impossibility of placing all pieces of equipment on the line at the same time, low water levels, ice, or some equipment being considered unreliable, thereby resulting in capability below capacity.

The published peak for Canada is non-coincident (the arithmetic-sum of the provincial peaks regardless of time of occurrence) and must be equal to, or greater than, the coincident peak load.

Receipts and deliveries of firm power used in calculating net capability are the interprovincial and international transfers of power under firm contracts, or the best estimate of firm obligations. The actual receipts and deliveries of firm and non-firm power are taken into account in the calculation of the firm power peak load.

Peak loads are the total demands within a province or territory after all interchanges have been taken into account to remove any duplication. The peak loads include all power consumed by ultimate customers, line losses and manufacturing plants' own consumption, but do not include generating station service which is deducted before arriving at generating capability.

Firm load not met measures the commitments that a system could not or would not meet at the time of its peak load.

Losses – external deliveries represent the amount of power and energy required to meet out of province commitments. Exports and interprovincial deliveries are measured at the border but, in some cases, power and energy are used for delivery to the border. These are subtracted as they do not represent internal use and, therefore, distort provincial growth rates.

The **reserve** of a province or territory is the reserve after all obligations have been taken into account whether or not these obligations have been met. It is a measure of the industry's ability to satisfy demands of a province or territory and meet contingencies. Since not all systems are fully interconnected, the reserves of power shown cannot always be fully utilized. However, with the development of interconnections, an increased sharing of capability is possible, particularly when provincial peaks occur at different times. To this extent the reserves reported in this publication may be understated.

It should be further noted that **firm load curtailable** represents power which the supplying utility intends to furnish to customers contracted under firm load curtailable agreements, except under the most extraordinary conditions. Thus, this curtailable power could be considered part of the utility's reserve when such extreme conditions apply.

Table 1
Electric power capability and load, actual (Winter) – Canada

	1993/94	2002/03	2003/04
	megawatt		
Total capability	106,678	106,070	108,533
Hydro	61,624	64,733	65,860
Steam	25,816	26,042	24,847
Nuclear	15,474	9,391	11,371
Internal combustion	533	674	629
Combustion turbine	3,231	5,077	5,590
Unspecified	0	153	236
Contracts for receipts of firm power, United States	205	600	775
Contracts for receipts of firm power, Provinces	...	...	...
Contracts for deliveries of firm power, United States	1,311	1,559	1,641
Contracts for deliveries of firm power, Provinces	...	...	...
Total net capability	105,572	105,111	107,667
Contractual losses, United States	48	103	104
Contractual losses, Provinces	...	...	...
Indicated capability	105,524	105,008	107,563
Actual capability	101,430	81,475	89,566
Peak load			
Net power generation	90,620	85,253	90,148
Receipts, United States	266	1,974	2,719
Receipts, Provinces	...	...	...
Deliveries, United States	5,526	1,293	400
Deliveries, Provinces	...	...	...
Peak met	85,360	85,934	92,467
Load not met	96	823	612
Losses, United States	314	78	47
Losses, Provinces	...	...	...
Indicated peak	85,142	86,679	93,092
Annual percentage change	4.2	0.8	7.3
Curtable load	3,297	1,295	2,315
Reserve	...	...	...
Percent of indicated capability	...	...	...
	1993	2002	2003
	gigawatt hours		
Total energy	515,965	581,070	569,538
Hydro	320,411	346,897	334,120
Steam	101,390	141,708	141,838
Nuclear	88,638	71,251	70,652
Internal combustion	798	1,395	1,393
Combustion turbine	4,728	19,819	21,535
Receipts – United States	7,550	16,442	24,521
Receipts – Provinces	...	...	...
Deliveries – firm, United States	15,073	9,236	10,428
Deliveries – firm, Provinces	...	...	...
Deliveries – non-firm, United States	19,894	27,581	20,883
Deliveries – non-firm, Provinces	...	...	...
Total available	488,548	560,695	562,748
Non-firm deliveries within province	1,216	..	..
Losses, United States	1,283	..	..
Losses, Provinces	...	...	...
Firm energy	486,049	560,695	562,748
Annual percentage change	1.8	2.4	0.4

Table 2a
Electric power capability and load, actual (Winter) – Newfoundland (Island)

	1993/94	2002/03	2003/04
	megawatt		
Total capability	1,857	1,885	1,958
Hydro	1,151	1,178	1,253
Steam	500	466	466
Nuclear	0	0	0
Internal combustion	41	76	77
Combustion turbine	165	165	162
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	1,857	1,885	1,958
Contractual losses, United States	0	0	0
Contractual losses, Provinces	0	0	0
Indicated capability	1,857	1,885	1,958
Actual capability	1,742	1,641	1,680
Peak load			
Net power generation	1,461	1,643	1,656
Receipts, United States	0	0	0
Receipts, Provinces	0	0	0
Deliveries, United States	0	0	0
Deliveries, Provinces	0	0	0
Peak met	1,461	1,643	1,656
Load not met	46	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Indicated peak	1,507	1,643	1,656
Annual percentage change	2.7	-0.5	0.8
Curtailed load	..	48	..
Reserve	350	290	302
Percent of indicated capability	18.8	15.4	15.4
	1993	2002	2003
	gigawatt hours		
Total energy	7,791	8,553	8,584
Hydro	6,170	5,844	6,294
Steam	1,581	2,385	1,952
Nuclear	0	0	0
Internal combustion	42	323	340
Combustion turbine	-2	1	-2
Receipts – United States	0	0	0
Receipts – Provinces	0	0	0
Deliveries – firm, United States	0	0	0
Deliveries – firm, Provinces	0	0	0
Deliveries – non-firm, United States	0	0	0
Deliveries – non-firm, Provinces	0	0	0
Total available	7,791	8,553	8,584
Non-firm deliveries within province	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Firm energy	7,791	8,553	8,584
Annual percentage change	2.0	3.4	0.4

Table 2b
Electric power capability and load, actual (Winter) – Newfoundland (Labrador)

	1993/94	2002/03	2003/04
	megawatt		
Total capability	5,512	5,428	5,248
Hydro	5,446	5,428	5,428
Steam	7	0	0
Nuclear	0	0	0
Internal combustion	32	0	0
Combustion turbine	27	0	0
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	4,213	4,083	4,083
Total net capability	1,299	1,345	1,345
Contractual losses, United States	0	0	0
Contractual losses, Provinces	95	92	92
Indicated capability	1,204	1,523	1,253
Actual capability	1,204	1,253	1,253
Peak load			
Net power generation	5,580	5,550	5,638
Receipts, United States	0	0	0
Receipts, Provinces	0	0	0
Deliveries, United States	0	0	0
Deliveries, Provinces	5,063	5,048	5,098
Peak met	517	502	540
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	117	116	117
Indicated peak	400	386	423
Annual percentage change	11.4	-0.3	9.6
Curtailable load	..	..	..
Reserve	804	867	830
Percent of indicated capability	66.8	69.2	66.2
	1993	2002	2003
	gigawatt hours		
Total energy	33,058	35,572	33,507
Hydro	33,023	35,572	33,507
Steam	0	0	0
Nuclear	0	0	0
Internal combustion	35	0	0
Combustion turbine	0	0	0
Receipts – United States	0	0	0
Receipts – Provinces	0	15	15
Deliveries – firm, United States	0	0	0
Deliveries – firm, Provinces	29,942	32,291	30,113
Deliveries – non-firm, United States	0	0	0
Deliveries – non-firm, Provinces	0	0	0
Total available	3,116	3,296	3,409
Non-firm deliveries within province	0	0	0
Losses, United States	0	0	0
Losses, Provinces	552	..	..
Firm energy	2,564	3,296	3,409
Annual percentage change	2.6	1.5	3.4

Table 2c
Electric power capability and load, actual (Winter) – Newfoundland and Labrador

	1993/94	2002/03	2003/04
	megawatt		
Total capability	7,369	7,313	7,386
Hydro	6,597	6,606	6,681
Steam	507	466	466
Nuclear	0	0	0
Internal combustion	73	76	77
Combustion turbine	192	165	162
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	4,213	4,083	4,083
Total net capability	3,156	3,230	3,303
Contractual losses, United States	0	0	0
Contractual losses, Provinces	95	92	92
Indicated capability	3,061	3,138	3,211
Actual capability	2,946	2,894	2,933
Peak load			
Net power generation	7,041	7,193	7,294
Receipts, United States	0	0	0
Receipts, Provinces	0	0	0
Deliveries, United States	0	0	0
Deliveries, Provinces	5,063	5,048	5,098
Peak met	1,978	2,145	2,196
Load not met	46	0	0
Losses, United States	0	0	0
Losses, Provinces	117	116	117
Indicated peak	1,907	2,029	2,079
Annual percentage change	4.4	-0.4	2.5
Curtailed load	..	48	..
Reserve	...	...	...
Percent of indicated capability	...	...	...
	1993	2002	2003
	gigawatt hours		
Total energy	39,193	41,416	42,091
Hydro	1,581	2,385	1,952
Steam	0	0	0
Nuclear	77	323	340
Internal combustion	-2	1	-2
Combustion turbine	0	0	0
Receipts – United States	0	0	0
Receipts – Provinces	0	15	15
Deliveries – firm, United States	0	0	0
Deliveries – firm, Provinces	29,942	32,291	30,113
Deliveries – non-firm, United States	0	0	0
Deliveries – non-firm, Provinces	0	0	0
Total available	10,907	11,849	11,993
Non-firm deliveries within province	0	0	0
Losses, United States	0	0	0
Losses, Provinces	552	..	..
Firm energy	10,355	11,849	11,993
Annual percentage change	2.2	2.9	1.2

Table 3
Electric power capability and load, actual (Winter) – Prince Edward Island

	1993/94	2002/03	2003/04
	megawatt		
Total capability	114	109	114
Hydro	0	0	0
Steam	65	62	62
Nuclear	0	0	0
Internal combustion	10	0	0
Combustion turbine	39	42	42
Unspecified	0	5	10
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	45	97	90
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	159	206	204
Contractual losses, United States	0	0	0
Contractual losses, Provinces	0	3	3
Indicated capability	159	203	201
Actual capability	150	196	189
Peak load			
Net power generation	..	72	27
Receipts, United States	0	0	0
Receipts, Provinces	143	118	168
Deliveries, United States	0	0	0
Deliveries, Provinces	0	0	0
Peak met	143	190	187
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	3	2
Indicated peak	143	187	185
Annual percentage change	3.6	-1.6	-1.1
Curtable load	11	15	13
Reserve	27	31	29
Percent of indicated capability	17.0	15.3	14.4
	1993	2002	2003
	gigawatt hours		
Total energy	59	39	62
Hydro	0	20	20
Steam	52	19	41
Nuclear	0	0	0
Internal combustion	0	0	0
Combustion turbine	7	0	1
Receipts – United States	0	0	0
Receipts – Provinces	731	1,317	1,129
Deliveries – firm, United States	0	0	0
Deliveries – firm, Provinces	0	0	0
Deliveries – non-firm, United States	0	0	0
Deliveries – non-firm, Provinces	0	0	0
Total available	790	1,356	1,191
Non-firm deliveries within province	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Firm energy	790	1,356	1,191
Annual percentage change	2.3	21.8	-12.2

Table 4
Electric power capability and load, actual (Winter) – Nova Scotia

	1993/94	2002/03	2003/04
	megawatt		
Total capability	2,320	2,297	2,337
Hydro	390	405	400
Steam	1,708	1,670	1,666
Nuclear	0	0	0
Internal combustion	0	0	0
Combustion turbine	222	222	271
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	2,320	2,297	2,337
Contractual losses, United States	0	0	0
Contractual losses, Provinces	0	0	0
Indicated capability	2,320	2,297	2,337
Actual capability	2,320	2,188	2,221
Peak load			
Net power generation	1,922	2,040	2,177
Receipts, United States	0	0	0
Receipts, Provinces	0	110	112
Deliveries, United States	0	0	0
Deliveries, Provinces	0	21	0
Peak met	1,922	2,129	2,289
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Indicated peak	1,922	2,129	2,289
Annual percentage change	5.5	11.1	7.5
Curtailed load	207	348	377
Reserve	605	516	425
Percent of indicated capability	26.1	22.5	18.2
	1993	2002	2003
	gigawatt hours		
Total energy	9,715	12,127	12,405
Hydro	884	1,063	1,122
Steam	8,787	11,043	11,197
Nuclear	0	0	0
Internal combustion	11	0	0
Combustion turbine	33	21	86
Receipts – United States	0	0	1
Receipts – Provinces	255	285	201
Deliveries – firm, United States	0	0	111
Deliveries – firm, Provinces	0	240	196
Deliveries – non-firm, United States	0	30	4
Deliveries – non-firm, Provinces	41	525	300
Total available	9,929	11,617	11,996
Non-firm deliveries within province	0	0	0
Losses, United States	0	..	..
Losses, Provinces	..	..	..
Firm energy	9,929	11,617	11,996
Annual percentage change	0.1	0.0	3.3

Table 5
Electric power capability and load, actual (Winter) – New Brunswick

	1993/94	2002/03	2003/04
	megawatt		
Total capability	4,296	3,987	4,221
Hydro	944	935	929
Steam	2,181	2,090	2,171
Nuclear	635	635	635
Internal combustion	5	0	5
Combustion turbine	531	327	481
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	133	63	75
Contracts for deliveries of firm power, Provinces	445	297	290
Total net capability	3,718	3,627	3,856
Contractual losses, United States	5	3	4
Contractual losses, Provinces	20	9	9
Indicated capability	3,693	3,615	3,843
Actual capability	3,352	3,596	3,598
Peak load			
Net power generation	3,274	3,595	3,380
Receipts, United States	0	0	105
Receipts, Provinces	0	0	306
Deliveries, United States	102	63	75
Deliveries, Provinces	333	407	91
Peak met	2,839	3,125	3,625
Load not met	0	0	0
Losses, United States	2	3	4
Losses, Provinces	1	9	3
Indicated peak	2,836	3,113	3,319
Annual percentage change	4.7	3.0	6.6
Curtailable load	92	..	124
Reserve	949	502	648
Percent of indicated capability	25.7	13.9	16.9
	1993	2002	2003
	gigawatt hours		
Total energy	15,157	17,883	20,967
Hydro	3,057	2,251	3,233
Steam	6,751	11,862	11,893
Nuclear	5,323	3,757	4,742
Internal combustion	3	4	3
Combustion turbine	23	9	1,096
Receipts – United States	123	9	72
Receipts – Provinces	1,518	1,804	628
Deliveries – firm, United States	1,382	866	1,726
Deliveries – firm, Provinces	360	814	917
Deliveries – non-firm, United States	580	1,715	961
Deliveries – non-firm, Provinces	668	1,497	1,556
Total available	13,808	14,804	16,507
Non-firm deliveries within province	0	0	0
Losses, United States	24	..	..
Losses, Provinces	62	..	..
Firm energy	13,722	14,804	16,507
Annual percentage change	0.2	-3.2	11.5

Table 6
Electric power capability and load, actual (Winter) – Québec

	1993/94	2002/03	2003/04
	megawatt		
Total capability	31,264	34,573	34,282
Hydro	29,022	32,174	31,778
Steam	625	678	830
Nuclear	675	660	613
Internal combustion	56	104	104
Combustion turbine	886	906	906
Unspecified	0	51	51
Contracts for receipts of firm power, United States	75	0	0
Contracts for receipts of firm power, Provinces	5,464	5,619	5,300
Contracts for deliveries of firm power, United States	276	495	390
Contracts for deliveries of firm power, Provinces	56	262	55
Total net capability	36,471	39,435	39,137
Contractual losses, United States	15	42	33
Contractual losses, Provinces	3	..	5
Indicated capability	36,453	39,393	39,099
Actual capability	35,249	36,088	37,935
Peak load			
Net power generation	25,747	28,741	31,452
Receipts, United States	75	895	991
Receipts, Provinces	5,464	6,440	5,104
Deliveries, United States	276	192	166
Deliveries, Provinces	56	139	231
Peak met	30,954	35,745	37,150
Load not met	0	823	612
Losses, United States	18	11	11
Losses, Provinces	4	8	15
Indicated peak	30,932	36,549	37,736
Annual percentage change	1.6	14.3	3.2
Curtailed load	1,670	884	1,713
Reserve	7,191	3,728	3,076
Percent of indicated capability	19.7	9.5	7.9
	1993	2002	2003
	gigawatt hours		
Total energy	155,156	177,148	177,849
Hydro	150,048	170,713	170,498
Steam	26	1,461	3,331
Nuclear	4,807	4,530	3,548
Internal combustion	250	242	253
Combustion turbine	25	202	219
Receipts – United States	684	2,545	3,925
Receipts – Provinces	30,192	35,066	34,612
Deliveries – firm, United States	8,092	2,589	2,340
Deliveries – firm, Provinces	1,129	2,889	2,794
Deliveries – non-firm, United States	4,917	12,249	7,698
Deliveries – non-firm, Provinces	1,003	1,920	118
Total available	170,891	195,112	203,436
Non-firm deliveries within province	100	0	0
Losses, United States	500	..	..
Losses, Provinces	70	..	..
Firm energy	170,221	195,112	203,436
Annual percentage change	3.7	3.0	4.3

Table 7
Electric power capability and load, actual (Winter) – Ontario

	1993/94	2002/03	2003/04
	megawatt		
Total capability	32,892	26,361	27,235
Hydro	7,249	7,111	7,391
Steam	10,869	10,080	8,656
Nuclear	14,164	8,096	10,123
Internal combustion	27	41	41
Combustion turbine	583	1,033	1,024
Unspecified	0	0	0
Contracts for receipts of firm power, United States	30	0	275
Contracts for receipts of firm power, Provinces	55	200	330
Contracts for deliveries of firm power, United States	0	191	366
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	32,977	26,370	27,474
Contractual losses, United States	0	6	3
Contractual losses, Provinces	0	0	0
Indicated capability	32,977	26,364	27,471
Actual capability	30,320	14,074	19,310
Peak load			
Net power generation	28,473	20,919	21,254
Receipts, United States	70	432	572
Receipts, Provinces	68	164	231
Deliveries, United States	3,837	69	0
Deliveries, Provinces	33	0	0
Peak met	24,741	21,446	22,057
Load not met	0	0	0
Losses, United States	190	2	19
Losses, Provinces	0	0	0
Indicated peak	24,551	21,444	22,038
Annual percentage change	9.6	-13.0	2.8
Curtailed load	561	..	..
Reserve	8,987	4,920	5,433
Percent of indicated capability	27.3	18.7	19.8
	1993	2002	2003
	gigawatt hours		
Total energy	143,308	154,342	150,426
Hydro	40,752	38,419	36,078
Steam	21,973	45,112	44,392
Nuclear	78,508	62,964	62,362
Internal combustion	3	92	91
Combustion turbine	2,072	7,755	7,503
Receipts – United States	2,765	4,983	7,430
Receipts – Provinces	1,579	5,116	6,032
Deliveries – firm, United States	244	305	1,726
Deliveries – firm, Provinces	7	754	3,100
Deliveries – non-firm, United States	6,913	3,811	2,850
Deliveries – non-firm, Provinces	217	1,076	162
Total available	140,271	158,495	156,050
Non-firm deliveries within province	0	0	0
Losses, United States	..	..	..
Losses, Provinces	..	..	..
Firm energy	140,271	158,495	156,050
Annual percentage change	-0.7	2.0	-1.5

Table 8
Electric power capability and load, actual (Winter) – Manitoba

	1993/94	2002/03	2003/04
	megawatt		
Total capability	5,308	5,494	5,565
Hydro	4,943	4,998	4,998
Steam	347	112	178
Nuclear	0	0	0
Internal combustion	18	10	10
Combustion turbine	0	374	379
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	500	500
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	500	810	810
Contracts for deliveries of firm power, Provinces	0	200	0
Total net capability	4,808	4,984	5,255
Contractual losses, United States	..	52	64
Contractual losses, Provinces	0	13	0
Indicated capability	4,808	4,919	5,191
Actual capability	4,472	4,503	4,653
Peak load			
Net power generation	4,636	4,570	3,113
Receipts, United States	0	525	767
Receipts, Provinces	124	0	225
Deliveries, United States	1,016	969	159
Deliveries, Provinces	136	186	0
Peak met	3,608	3,940	3,946
Load not met	50	0	0
Losses, United States	83	62	13
Losses, Provinces	11	11	0
Indicated peak	3,564	3,867	3,933
Annual percentage change	4.8	-3.4	1.7
Curtailable load	..	..	..
Reserve	1,244	1,052	1,258
Percent of indicated capability	25.9	21.4	24.2
	1993	2002	2003
	gigawatt hours		
Total energy	27,159	29,437	21,153
Hydro	26,891	28,820	20,246
Steam	241	606	896
Nuclear	0	0	0
Internal combustion	27	11	11
Combustion turbine	0	0	0
Receipts – United States	196	2,243	5,909
Receipts – Provinces	925	342	533
Deliveries – firm, United States	3,466	4,678	3,654
Deliveries – firm, Provinces	188	1,999	3,665
Deliveries – non-firm, United States	3,893	2,504	820
Deliveries – non-firm, Provinces	2,130	371	0
Total available	18,603	22,470	19,456
Non-firm deliveries within province	0	0	0
Losses, United States	611	..	..
Losses, Provinces	177	..	..
Firm energy	17,815	22,470	19,456
Annual percentage change	1.7	4.6	-13.4

Table 9
Electric power capability and load, actual (Winter) – Saskatchewan

	1993/94	2002/03	2003/04
	megawatt		
Total capability	2,837	3,359	3,449
Hydro	847	853	853
Steam	1,852	1,955	2,034
Nuclear	0	0	0
Internal combustion	2	9	9
Combustion turbine	136	531	531
Unspecified	0	11	22
Contracts for receipts of firm power, United States	100	100	0
Contracts for receipts of firm power, Provinces	150	0	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	3,087	3,459	3,449
Contractual losses, United States	0	0	0
Contractual losses, Provinces	0	0	0
Indicated capability	3,087	3,459	3,449
Actual capability	2,777	3,226	3,555
Peak load			
Net power generation	2,293	2,657	3,361
Receipts, United States	18	122	19
Receipts, Provinces	171	22	53
Deliveries, United States	0	0	0
Deliveries, Provinces	0	131	222
Peak met	2,482	2,670	3,211
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	..	..
Indicated peak	2,482	2,670	3,211
Annual percentage change	1.1	-8.5	20.3
Curtailed load	156	..	88
Reserve	761	789	326
Percent of indicated capability	24.7	22.8	9.5
	1993	2002	2003
	gigawatt hours		
Total energy	15,212	17,970	19,789
Hydro	4,051	2,879	3,475
Steam	11,099	13,637	14,888
Nuclear	0	0	0
Internal combustion	56	18	7
Combustion turbine	6	1,436	1,419
Receipts – United States	147	962	908
Receipts – Provinces	1,411	936	391
Deliveries – firm, United States	0	42	0
Deliveries – firm, Provinces	6	327	1,054
Deliveries – non-firm, United States	229	419	708
Deliveries – non-firm, Provinces	1,314	267	0
Total available	15,221	18,813	19,326
Non-firm deliveries within province	0	0	0
Losses, United States	..	..	..
Losses, Provinces	..	..	..
Firm energy	15,221	18,813	19,326
Annual percentage change	4.1	1.0	2.7

Table 10
Electric power capability and load, actual (Winter) – Alberta

	1993/94	2002/03	2003/04
	megawatt		
Total capability	8,275	9,743	9,893
Hydro	819	812	824
Steam	6,945	7,353	7,118
Nuclear	0	0	0
Internal combustion	46	120	0
Combustion turbine	465	1,374	1,680
Unspecified	0	84	152
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	8,275	9,743	9,893
Contractual losses, United States	0	0	0
Contractual losses, Provinces	0	0	0
Indicated capability	8,275	9,743	9,893
Actual capability	8,275	4,673	4,851
Peak load			
Net power generation	6,881	6,899	7,094
Receipts, United States	0	0	0
Receipts, Provinces	35	131	0
Deliveries, United States	0	0	0
Deliveries, Provinces	42	0	53
Peak met	6,874	7,030	7,041
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Indicated peak	6,874	7,030	7,041
Annual percentage change	1.7	2.0	0.2
Curtailed load	600	..	..
Reserve	2,001	2,713	2,852
Percent of indicated capability	24.2	27.8	28.8
	1993	2002	2003
	gigawatt hours		
Total energy	48,663	61,609	60,314
Hydro	1,808	1,883	2,162
Steam	44,559	51,169	48,932
Nuclear	0	0	0
Internal combustion	21	227	177
Combustion turbine	2,275	8,330	9,043
Receipts – United States	2	308	331
Receipts – Provinces	683	582	1,585
Deliveries – firm, United States	0	57	0
Deliveries – firm, Provinces	1	4	1
Deliveries – non-firm, United States	0	46	74
Deliveries – non-firm, Provinces	1,858	162	1,299
Total available	47,489	62,230	60,856
Non-firm deliveries within province	891	0	0
Losses, United States	..	..	..
Losses, Provinces	..	..	..
Firm energy	46,598	62,230	60,586
Annual percentage change	2.6	3.1	-2.2

Table 11
Electric power capability and load, actual (Winter) – British Columbia

	1993/94	2002/03	2003/04
	megawatt		
Total capability	11,624	12,460	13,687
Hydro	10,687	10,712	11,875
Steam	717	1,576	1,666
Nuclear	0	0	0
Internal combustion	69	91	55
Combustion turbine	151	81	91
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	402	0	0
Contracts for deliveries of firm power, Provinces	1	0	0
Total net capability	11,221	12,460	13,687
Contractual losses, United States	28	0	0
Contractual losses, Provinces	0	0	0
Indicated capability	11,193	12,460	13,687
Actual capability	11,193	9,755	10,020
Peak load			
Net power generation	10,207	8,347	10,782
Receipts, United States	103	0	265
Receipts, Provinces	35	0	0
Deliveries, United States	295	0	0
Deliveries, Provinces	38	0	265
Peak met	10,012	8,347	10,782
Load not met	0	0	0
Losses, United States	21	0	0
Losses, Provinces	3	0	0
Indicated peak	9,988	8,347	10,782
Annual percentage change	-0.8	3.0	29.2
Curtailable load	..	..	..
Reserve	1,205	4,113	2,905
Percent of indicated capability	10.8	33.0	21.2
	1993	2002	2003
	gigawatt hours		
Total energy	59,753	65,335	63,383
Hydro	53,174	58,878	56,929
Steam	6,321	4,414	4,316
Nuclear	0	0	0
Internal combustion	65	87	79
Combustion turbine	193	1,956	2,059
Receipts – United States	3,633	5,392	5,945
Receipts – Provinces	1,842	4	1,111
Deliveries – firm, United States	1,889	699	871
Deliveries – firm, Provinces	21	18	0
Deliveries – non-firm, United States	3,362	6,807	7,768
Deliveries – non-firm, Provinces	251	312	963
Total available	59,705	62,895	60,837
Non-firm deliveries within province	225	0	0
Losses, United States	148	..	..
Losses, Provinces	17	..	..
Firm energy	59,315	62,895	60,837
Annual percentage change	2.8	2.2	-3.3

Table 12
Electric power capability and load, actual (Winter) – Yukon

	1993/94	2002/03	2003/04
	megawatt		
Total capability	135	130	131
Hydro	78	76	76
Steam	0	0	0
Nuclear	0	0	0
Internal combustion	57	53	54
Combustion turbine	0	0	0
Unspecified	0	1	1
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	135	130	131
Contractual losses, United States	0	0	0
Contractual losses, Provinces	0	0	0
Indicated capability	135	130	131
Actual capability	121	105	105
Peak load			
Net power generation	57	78	84
Receipts, United States	0	0	0
Receipts, Provinces	0	0	0
Deliveries, United States	0	0	0
Deliveries, Provinces	0	0	0
Peak met	57	78	84
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Indicated peak	57	78	84
Annual percentage change	-26.9	9.9	7.7
Curtailable load	..	..	..
Reserve	78	52	47
Percent of indicated capability	57.8	40.0	35.9
	1993	2002	2003
	gigawatt hours		
Total energy	337	312	320
Hydro	289	274	285
Steam	0	0	0
Nuclear	0	0	0
Internal combustion	48	38	35
Combustion turbine	0	0	0
Receipts – United States	0	0	0
Receipts – Provinces	0	0	0
Deliveries – firm, United States	0	0	0
Deliveries – firm, Provinces	0	0	0
Deliveries – non-firm, United States	0	0	0
Deliveries – non-firm, Provinces	0	0	0
Total available	337	312	320
Non-firm deliveries within province	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Firm energy	337	312	320
Annual percentage change	-29.8	4.3	2.6

Table 13
Electric power capability and load, actual (Winter) – Northwest Territories

	1993/94	2002/03	2003/04
	megawatt		
Total capability	244	164	167
Hydro	48	51	55
Steam	0	0	0
Nuclear	0	0	0
Internal combustion	170	91	89
Combustion turbine	26	22	23
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	2
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	244	164	169
Contractual losses, United States	0	0	0
Contractual losses, Provinces	0	0	0
Indicated capability	244	164	169
Actual capability	244	119	130
Peak load			
Net power generation	89	98	93
Receipts, United States	0	0	0
Receipts, Provinces	0	0	0
Deliveries, United States	0	0	0
Deliveries, Provinces	0	0	0
Peak met	89	98	93
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Indicated peak	89	98	93
Annual percentage change	-12.7	-4.9	-5.1
Curtailed load	..	..	..
Reserve	155	66	76
Percent of indicated capability	63.5	40.2	45.0
	1993	2002	2003
	gigawatt hours		
Total energy	597	551	646
Hydro	264	281	271
Steam	0	0	0
Nuclear	0	0	0
Internal combustion	237	161	264
Combustion turbine	96	109	111
Receipts – United States	0	0	0
Receipts – Provinces	0	0	0
Deliveries – firm, United States	0	0	0
Deliveries – firm, Provinces	0	0	0
Deliveries – non-firm, United States	0	0	0
Deliveries – non-firm, Provinces	0	0	0
Total available	597	551	646
Non-firm deliveries within province	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Firm energy	597	551	646
Annual percentage change	1.0	1.5	17.2

Table 14
Electric power capability and load, actual (Winter) – Nunavut

	1993/94	2002/03	2003/04
	megawatt		
Total capability	...	80	66
Hydro	...	0	0
Steam	...	0	0
Nuclear	...	0	0
Internal combustion	...	79	66
Combustion turbine	...	0	0
Unspecified	...	1	0
Contracts for receipts of firm power, United States	...	0	0
Contracts for receipts of firm power, Provinces	...	0	0
Contracts for deliveries of firm power, United States	...	0	0
Contracts for deliveries of firm power, Provinces	...	0	0
Total net capability	...	80	66
Contractual losses, United States	...	0	0
Contractual losses, Provinces	...	0	0
Indicated capability	...	80	66
Actual capability	...	58	66
Peak load			
Net power generation	...	44	37
Receipts, United States	...	0	0
Receipts, Provinces	...	0	0
Deliveries, United States	...	0	0
Deliveries, Provinces	...	0	0
Peak met	...	44	37
Load not met	...	0	0
Losses, United States	...	0	0
Losses, Provinces	...	0	0
Indicated peak	...	44	37
Annual percentage change	...	57.1	-15.9
Curtailable load
Reserve	...	36	29
Percent of indicated capability	...	45.0	43.9
	1993	2002	2003
	gigawatt hours		
Total energy	...	192	133
Hydro	...	0	0
Steam	...	0	0
Nuclear	...	0	0
Internal combustion	...	192	133
Combustion turbine	...	0	0
Receipts – United States	...	0	0
Receipts – Provinces	...	0	0
Deliveries – firm, United States	...	0	0
Deliveries – firm, Provinces	...	0	0
Deliveries – non-firm, United States	...	0	0
Deliveries – non-firm, Provinces	...	0	0
Total available	...	192	133
Non-firm deliveries within province	...	0	0
Losses, United States	...	0	0
Losses, Provinces	...	0	0
Firm energy	...	192	133
Annual percentage change	...	-25.3	-30.7