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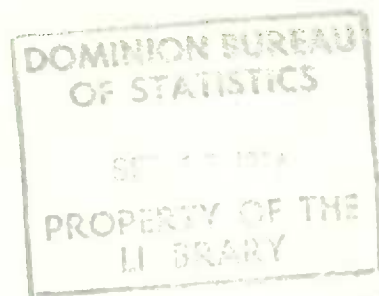
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ANNUAL ELECTRIC POWER SURVEY OF CAPABILITY AND LOAD

1963 Actual

1964 - 1968 Forecast



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Industry Division

Energy Statistics Section

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OF CAPABILITY AND LOAD

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Catalogue number	Title	Price
Annual		
57-201	Electric and Gas Meter Registrations. Approx. 250pp. Meter registrations by province, county or census division, company and place served, by type of service	\$2.50
57-202	Electric Power Statistics. Approx. 65pp. Summary and detailed analyses of generation and use of electric power in Canada, power plant equipment, customers, employees, salaries and wages and financial statistics .....	.75
57-203	Electricity Bills for Domestic, Commercial and Small Power Service. Approx. 15pp. Includes an annual index of electricity bills for domestic service, and bills for light and power in cities and represen- tative municipalities .....	.50
57-204	Electric Power Survey of Capability and Load. Approx. 50pp. Current and projected data of capability and load of major producers of electric energy in Canada .....	.75
Monthly		
57-001	Electric Power Statistics. Approx. 4pp. Production by utilities and industrial establishments, imports and exports, power made available for use in Canada, amount used in electric boilers, by provinces. Per copy 10¢; per year	\$1.00
Occasional		
57-502	Inventory of Prime Mover and Electric Generating Equipment. Approx. 120pp. A list of generating plants in Canada by ownership showing the location, year of installation, name-plate rating and other details of each unit, as at December 31, 1961	\$1.50

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SYMBOLS

The interpretation of the symbols used in the tables throughout this publication is as follows:

r Revised figures.

.. Figures not available.

... Figures not appropriate or not applicable.

- Nil or zero.

INTRODUCTION

This report presents the results of the Annual Electric Power Survey of Capability and Load which was conducted in March 1964. The survey covers all producers of electric energy in Canada which generate 10 million kwh. or more per annum. This report, therefore, covers the same group of firms which provide the statistics for the monthly "Electric Power Statistics" report (catalogue No. 57-001). The report is organized in such a manner that there is a direct comparison and link with the monthly "Electric Power Statistics" in that the generation figures are common to the two publications: Any differences are due to late revisions. The forecast period for this report has been extended to a five year period as compared with four in previous years.

There are approximately 150 responding firms in the group, about half of which are utilities and half industrial establishments. The combined group accounts for 99.6 per cent of all generation, and all the imports and exports. The utilities group contributes approximately 80 per cent of the generation to the Canada total.

The survey is carried out in co-operation with the Canadian Electrical Association. Area representatives of the Association collect and edit the returns, which are forwarded to the Dominion Bureau of Statistics for final revision, editing, and compilation. The assistance received from the Canadian Electrical Association and its members has been invaluable.

Review of Survey Results

Total net generating capability in 1963 for firms which generate over 10 million kw. per year increased 1,609,000 kw. or 6.74 per cent to 25,478,000 kw. The forecast years, 1964-1968, indicate an anticipated growth of 7,160,000 kw., or a compound growth rate of 6.39 per cent as compared with the 1951-1963 growth rate of 8.04 per cent. Thermal capability is expected to grow at the rate of 9.5 per cent in the forecast period compared with 15.5 per cent in the previous twelve-year period, while hydro-electric capability is expected to increase at 3.6 per cent compared with 6.7 per cent in the previous twelve years. The hydro-electric capability forecast figures do not include the Hamilton Falls development in Labrador as the plans for this project are indefinite. Most of the thermal capability growth will be in steam plants. There will be small increases in the thermal capability of gas turbine and internal combustion plants.

The first nuclear firm capability is now forecast for 1967.

In 1962 it was forecast that the net generating capability in 1963 would be 25,498,000 kw. The actual 1963 net generating capability fell short of this estimate by only 20,000 kw. The 1962 forecast for 1963 generating capability was approximately realized in all provinces except Ontario, which was significantly under the forecast, and Quebec, which was significantly over the forecast.

The largest absolute growths in generating capability for the forecast years are indicated for Quebec - 2,323,000 kw., Ontario - 2,199,000 kw., Alberta - 790,000 kw., and British Columbia - 769,000 kw. Whereas Quebec will meet the increased generating capability by adding 2,014,000 kw. in hydro capability and 309,000 kw. in thermal capability, Ontario plans to increase its capability by adding 1,915,000 kw. in thermal capability, including 218,000 kw. nuclear, and 284,000 kw. hydro. Alberta plans to add 490,000 kw. in thermal capability and 300,000 kw. in hydro capability. British Columbia estimates increases of 424,000 kw. and 345,000 kw. in hydro and thermal capability respectively.

The firm power peak loads have not shown the same change in rate of growth as generating capability. In the period from 1951 to 1963 the growth rate of firm power peak loads in Canada was 7.2 per cent while the forecast rate of growth from 1964 to 1968 is 6.0 per cent. As a result, the indicated reserve is expected to vary slightly during the forecast years from 4,573,000 kw. in 1963 to a

low of 4,369,000 kw. in 1964 and a high of 4,663,000 KW in 1968. The indicated reserve, stated as a percentage of firm power peak load, is forecast to decline steadily from 21.9 per cent in 1963 to 16.4 per cent in 1967 and then rise to 16.7 per cent in 1968.

Indicated reserve data does not take into account reduction in generating capability due to adverse flow conditions such as ice, low water etc., which occur during the peak load season. In 1963, this reduction in generating capability amounted to about 780,000 kw. with Quebec accounting for 55.8 per cent, Ontario 41.2 per cent, Newfoundland 1.8 per cent, Saskatchewan 0.9 per cent and British Columbia 0.3 per cent.

Firm energy requirements increased 5.6 per cent from 111,043 million kw. in 1962 to 117,254 million kw. in 1963 compared with a growth of 6.4 per cent in the previous twelve year period and a forecast growth rate of 6.1 per cent for the period 1964-1968. The additional firm energy requirement was supplied by an increase in net generation of 4,611 million kw., a drop in net exports of 565 million kw. and a smaller amount of secondary energy delivered within Canada. This decrease amounted to 1,035 million kw.

Concepts and Definitions

Table 1. Capability, Firm Power Peak Load and Energy Requirements:

The generating capability and firm power peak load concepts are virtually unchanged from previous reports. However, more detail has been provided in the generating capability which is now broken down to identify conventional steam, nuclear steam, internal combustion, and gas turbine equipment. Generating capability measures the expected power of all available generating facilities of the province (or nation) at the time of one-hour firm peak load for each of the respondents. This may be equal to, or smaller than, the generating capacity as measured by the name plate rating of the equipment and published in the "Prime Mover and Electric Generating Equipment" report.

The variations between generating capability and generating capacity may be caused by high water 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, ice, or some equipment being considered unreliable, thereby resulting in generation below capacity.

All figures in Table 1 of the report are calculated at the time of the one-hour peak load for each of the respondents. As a result, capability and peak loads are non-coincident (the arithmetic sum of the actual peak loads regardless of time of occurrence) and may be equal to, or greater than, the coincident peak load for each of the provinces. Insofar as the utilities have about 80 per cent of the load of the nation and most of the peak loads occur in December, the variation from the coincident peak will not be too great. Two major systems which account for almost 40 per cent of the capability have only a slight variation between their coincident and non-coincident peak loads. Of thirty-five major systems serving Canada, seven had peak loads on December 16, four on December 17, eighteen on other dates between November 30 and December 31 and six outside this period.

Receipts and deliveries of firm power used in calculating net capability are the inter-provincial and international transfers of power under firm contracts, or the best estimate of firm obligations possible in the absence of contracts. The actual receipts and deliveries of firm and secondary power are taken into account in the calculation of firm power peak loads.

Peak loads are the total demands within a province after all inter-changes have been taken into account to remove any duplication. The peak loads include all electricity 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 power peak loads exclude the secondary or surplus energy used by ultimate customers on an interruptible basis, as these are not firm obligations.

Indicated shortages are a measure of the firm power commitments that a system was not able to meet at the time of its peak load.

The indicated power reserve of a province (shown in Table 1) is the reserve after all firm obligations and shortages have been met or received. It is the difference between net capability and total firm peak load within the province or gross capability less firm power peak load on the province, and is a measure of the industries' ability to satisfy demands of a province and meet contingencies. Since not all systems are fully interconnected, the reserves of power shown cannot always be fully utilized.

Net generation figures which are identical with the figures presented in the monthly "Electric Power Statistics" report (or revisions thereof) are exclusive of station service and, for 1963, are subdivided by type of generation. No forecasts of generation are given for 1964-68.

Although complete historical figures are not currently available, it is expected that they will be included in future reports.

Firm energy receipts and deliveries are the actual receipts and deliveries under firm contracts or obligations.

Secondary energy delivered within the province is the surplus energy sold at time of low demand and when surplus generating capability is available. This energy may be interrupted at any time and, consequently, sells at very low rates, generally for use in electric boilers.

Firm energy available is the measure of primary demands of electric energy, including residential, commercial and power sales, and all line losses after deducting net exports. It is an important economic indicator and, as such, is of major importance in forecasting.

Indicated shortage is an estimate of the total quantity of energy a system was unable to deliver due to its inability to meet firm power commitments during the year; no shortages have occurred since 1957.

Firm energy requirements are a measure of the needs for electric energy that have been or can be met (firm energy available) and those that cannot be serviced (shortage).

CHART-A

TOTAL GENERATING CAPABILITY WITHIN CANADA

1951-1968

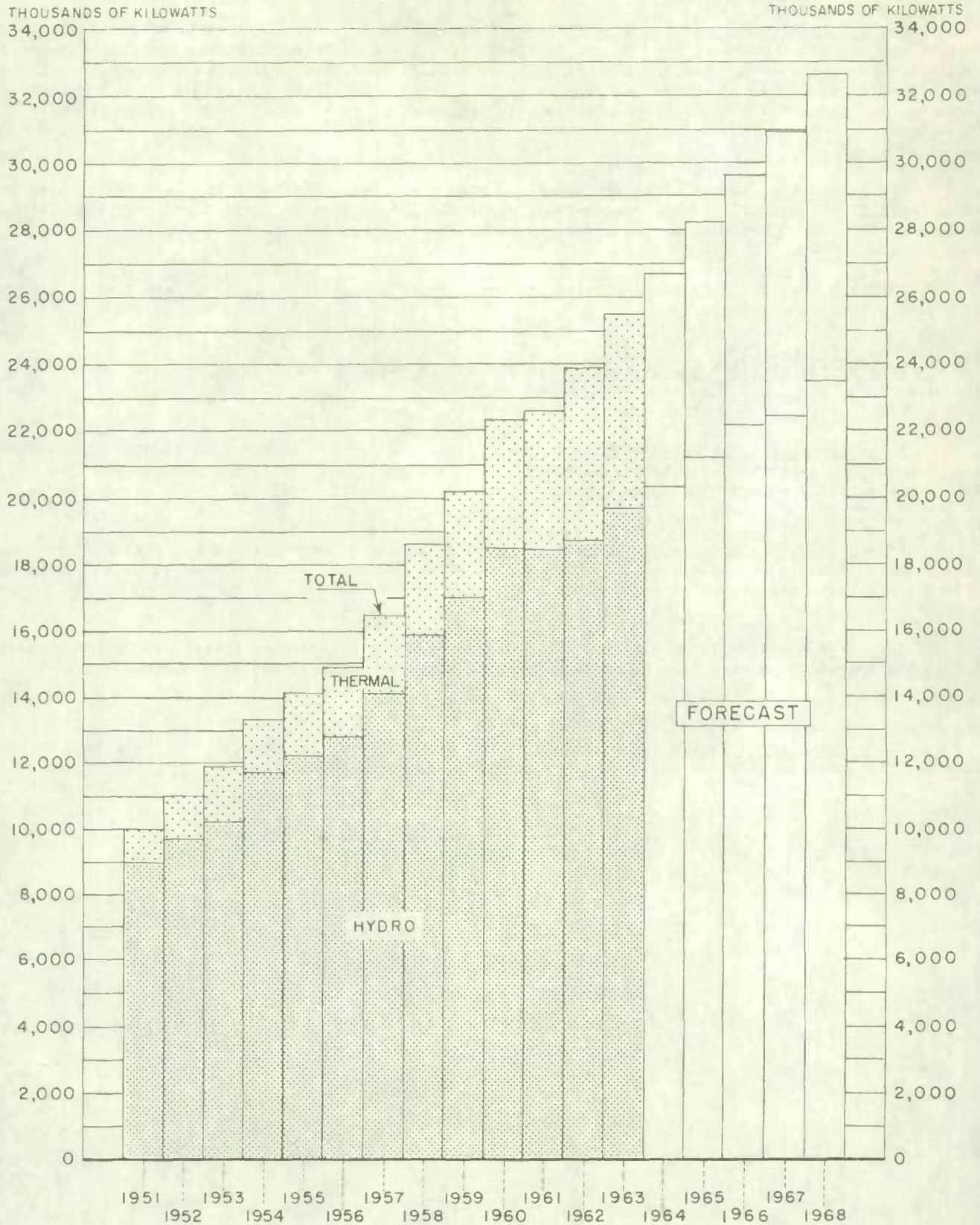


CHART - B

NET CAPABILITY AND PEAK LOADS WITHIN CANADA

1951 - 1968

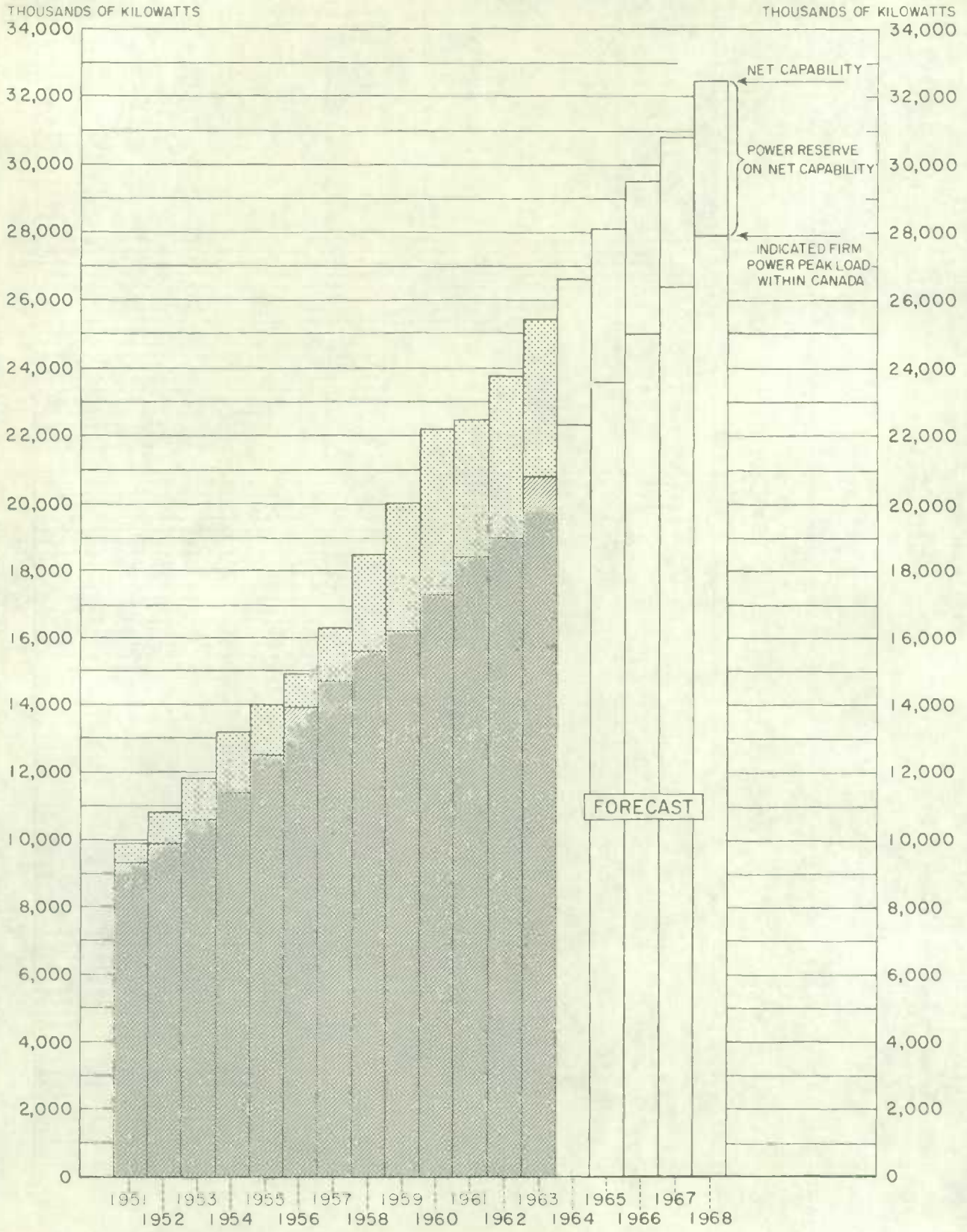


CHART - C

NET GENERATING CAPABILITY WITHIN PROVINCES 1951-1968

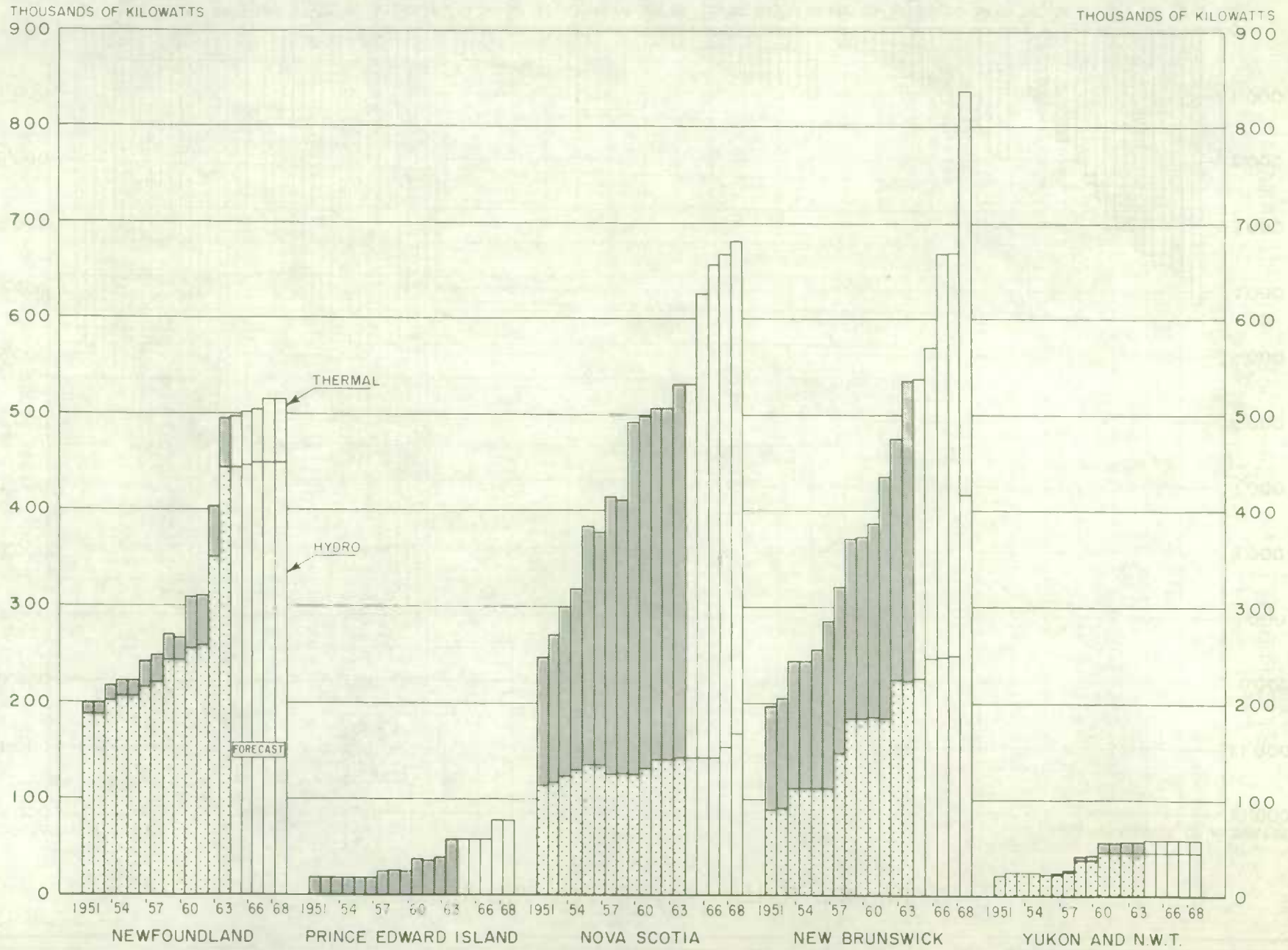


CHART - C

NET GENERATING CAPABILITY WITHIN PROVINCES 1951 - 1968

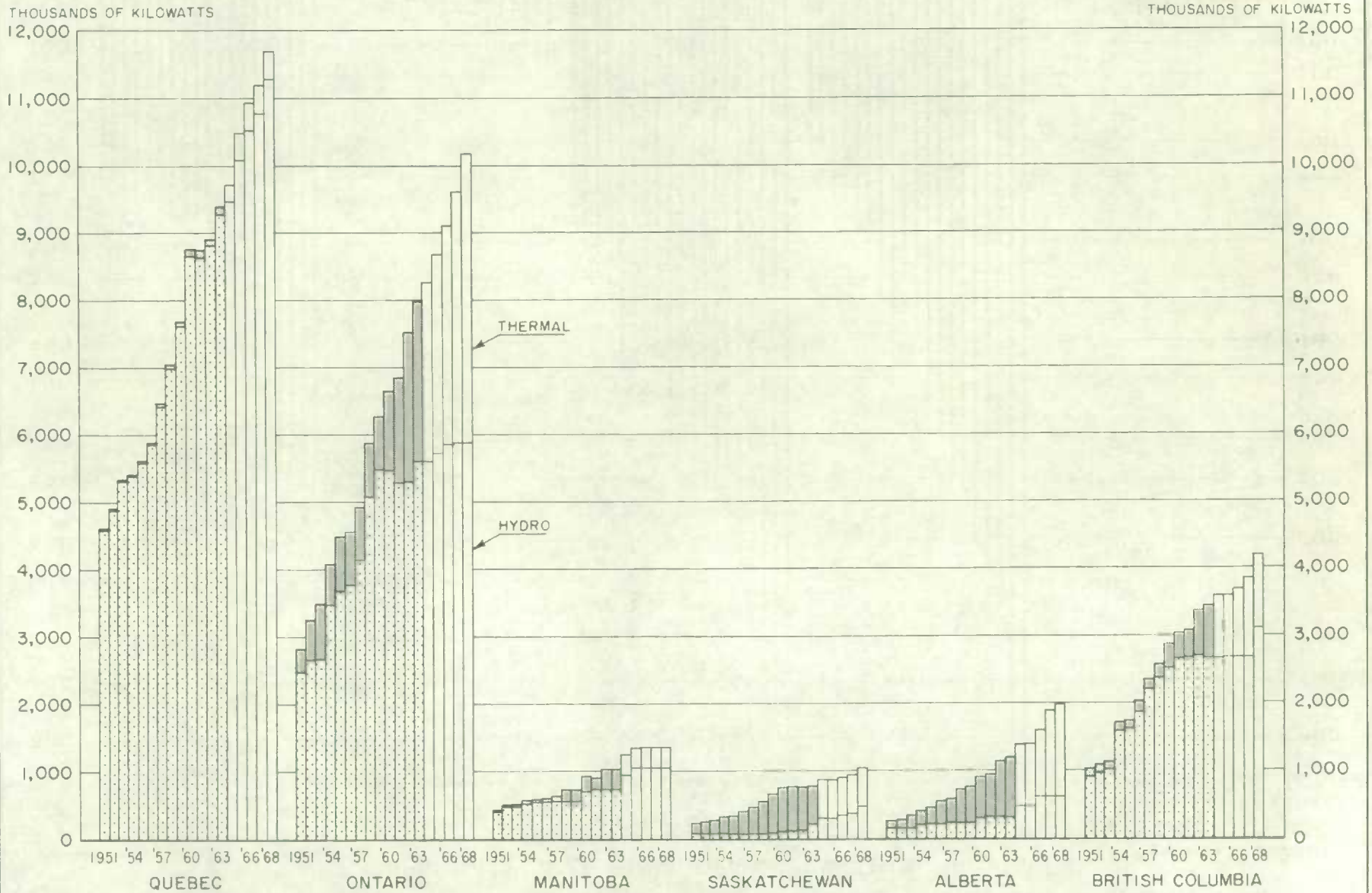


CHART - D

NET CAPABILITY AND FIRM DEMAND WITHIN PROVINCES

1951 - 1968

THOUSANDS OF KILOWATTS

THOUSANDS OF KILOWATTS

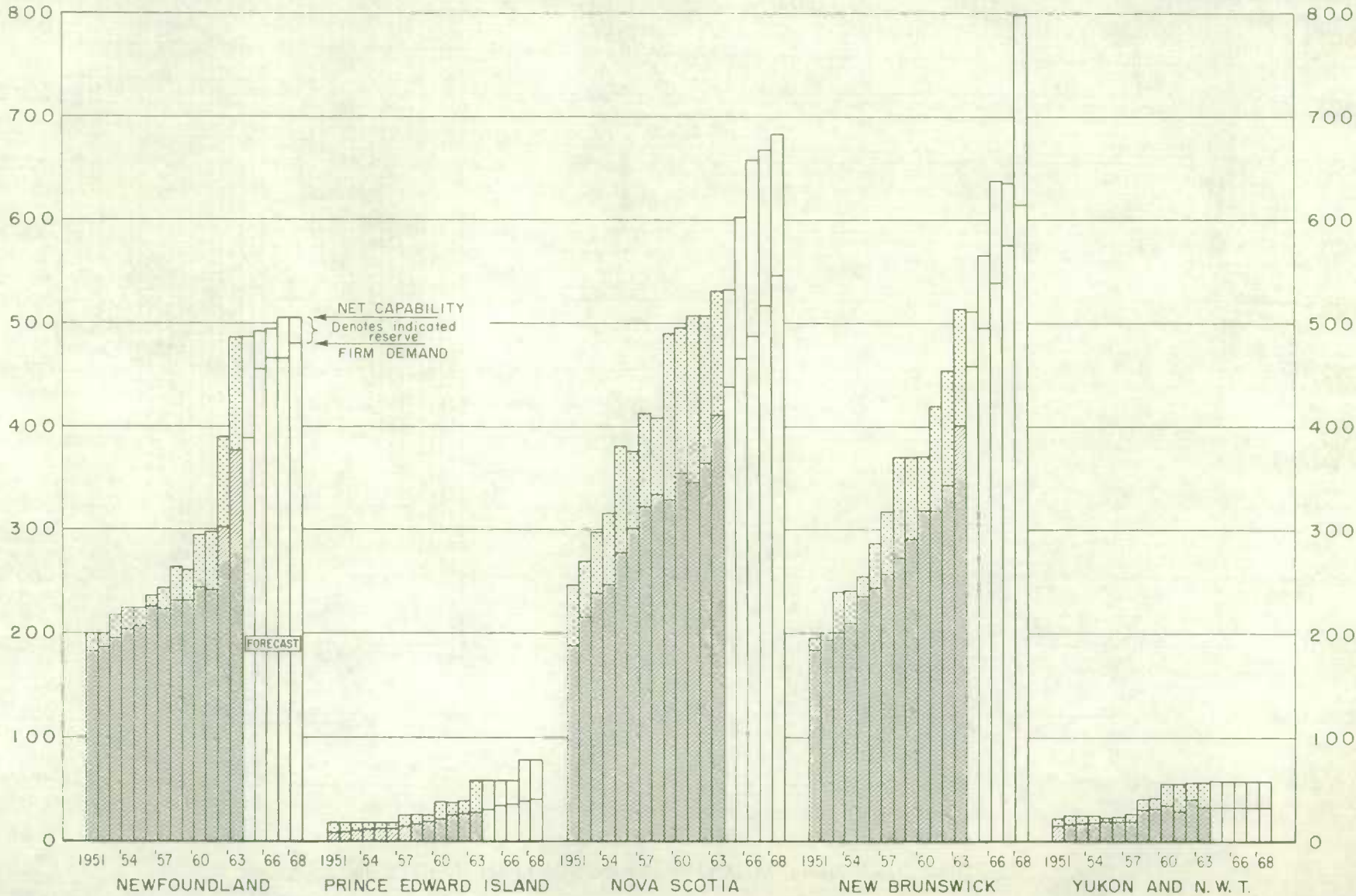


CHART - D

NET CAPABILITY AND FIRM DEMAND WITHIN PROVINCES

1951 - 1968

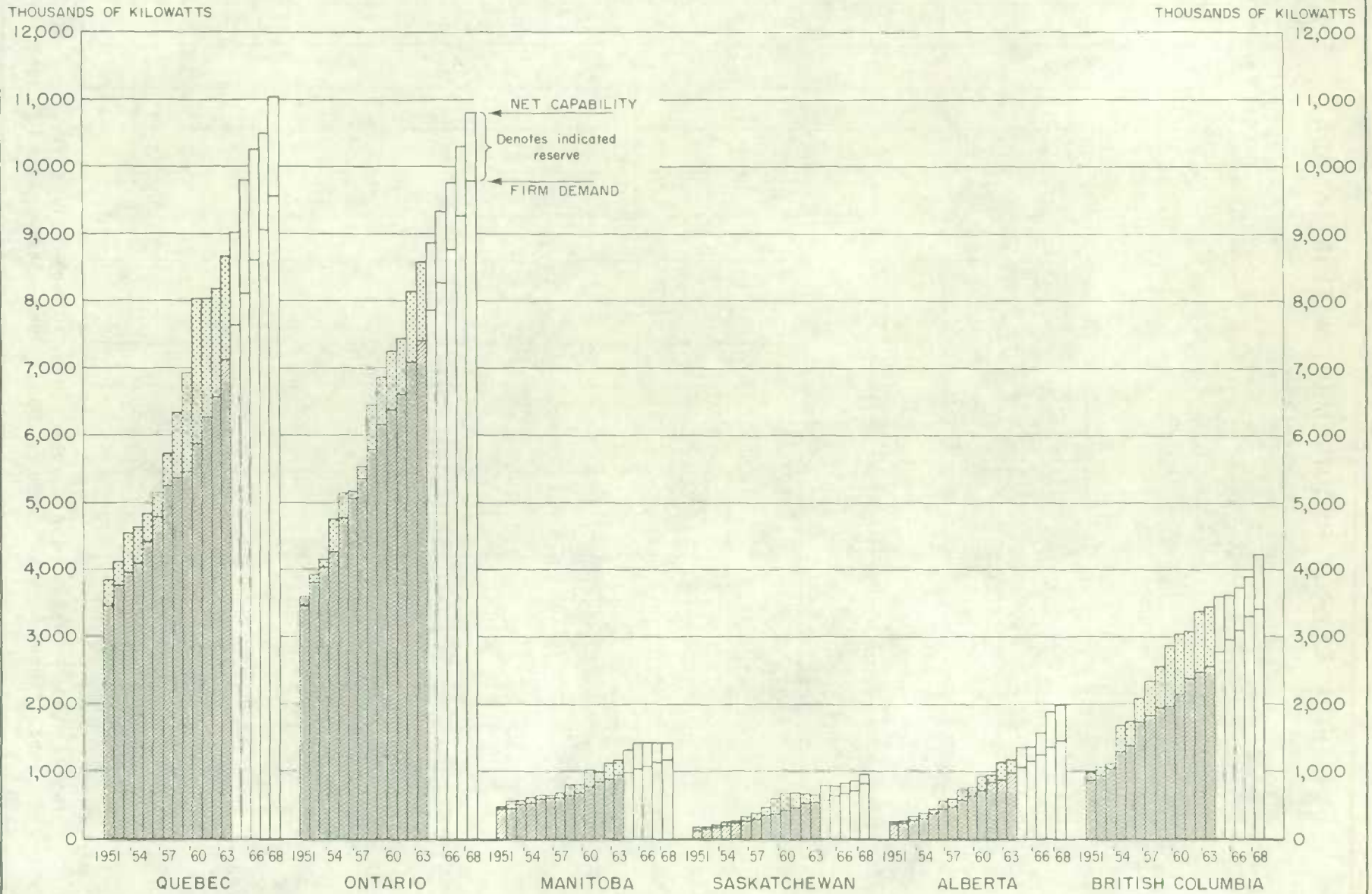
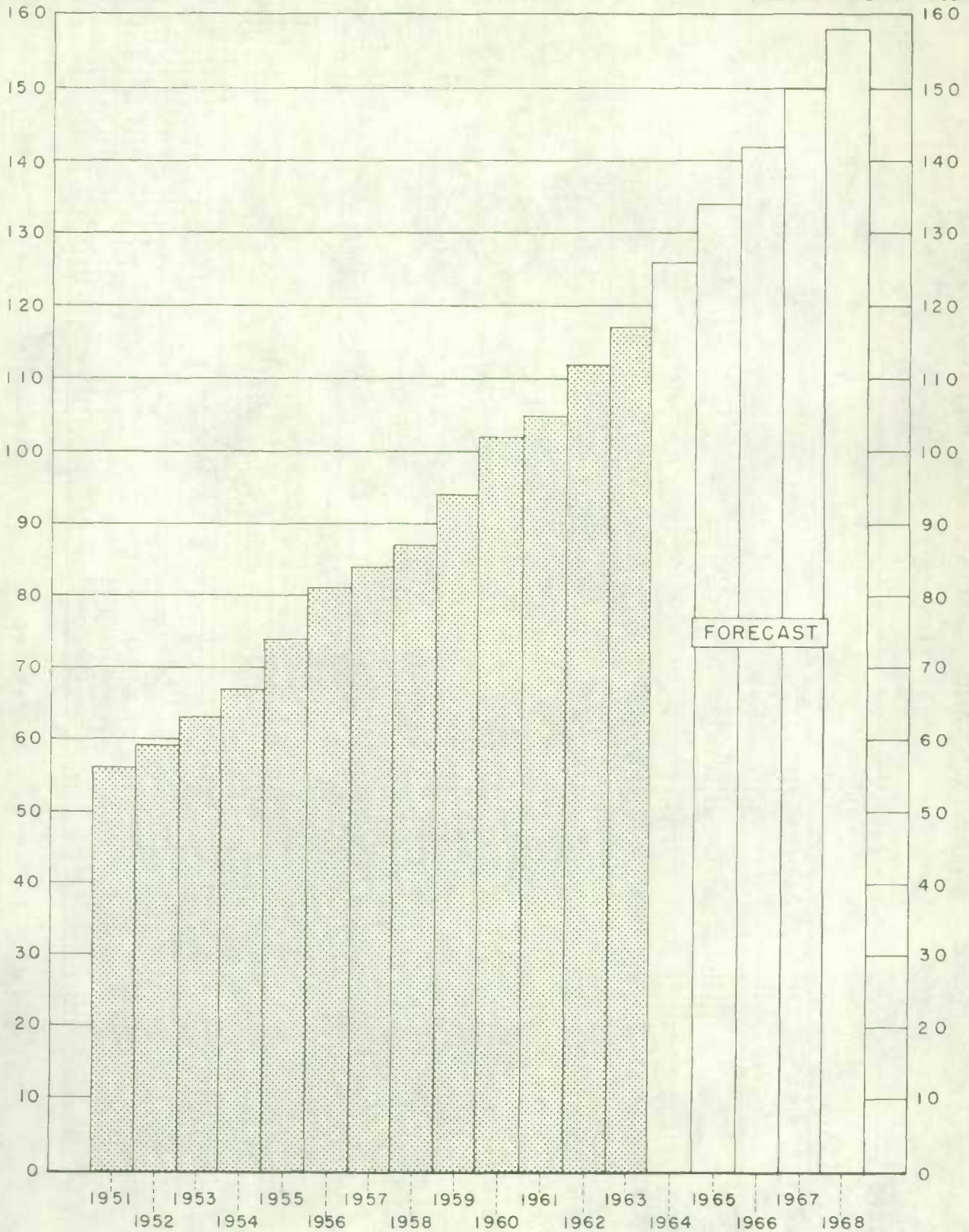


CHART-E

FIRM ENERGY REQUIREMENT WITHIN CANADA 1951-1968

BILLIONS OF KILOWATT-HOURS

BILLIONS OF KILOWATT-HOURS



FIRM ENERGY REQUIREMENT WITHIN CANADA

1980-1981

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements

Capability and peak load	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
thousands of kilowatts											
Capability:											
Net generating capability:											
1. Hydro-electric	9,044	17,086	18,516	18,389	18,651	19,666	20,319	21,211	22,058	22,378	23,496
2. Steam - Conventional)				(3,648	4,596	5,194	5,813	6,356	6,856	7,623	8,251
3. Nuclear)				(-	-	-	-	-	-	218	218
4. Internal combustion)	1,032	3,119	3,824	(240	251	236	244	250	254	256	258
5. Gas turbine)				(351	371	382	383	384	384	384	415
6. Total net generating capability	10,076	20,205	22,340	22,628	23,869	25,478	26,759	28,201	29,552	30,860	32,638
Receipts of firm power from:											
7. Other provinces .....	...	...	...	...	...	...	...	...	...	...	...
8. United States	-	-	-	2	4	2	2	3	3	3	3
9. Total receipts	-	-	-	2	4	2	2	3	3	3	3
Deliveries of firm power to:											
10. Other provinces .....	...	...	...	...	...	...	...	...	...	...	...
11. United States	175	152	166	146	121	122	127	90	91	97	101
12. Total deliveries	175	152	166	146	121	122	127	90	91	97	101
13. Total net capability (6 + 9 - 12)	9,901	20,053	22,174	22,484	23,752	25,358	26,634	28,114	29,464	30,766	32,540
Peak loads:											
14. Firm power peak load within Canada	8,989	16,201	17,264	18,353	18,972	20,757	22,265	23,605	24,953	26,338	27,789
15. Indicated shortages	321	-	-	-	-	28	-	28	70	86	88
16. Total indicated firm power peak load within Canada (14 + 15)	9,310	16,201	17,264	18,353	18,972	20,785	22,265	23,633	25,023	26,424	27,877
17. Firm power peak load on Canada (12 + 16)	9,485	16,353	17,430	18,499	19,093	20,907	22,392	23,723	25,114	26,521	27,978
Indicated reserve:											
18. Indicated reserve (13 - 16)	591	3,852	4,910	4,131	4,780	4,573	4,369	4,481	4,441	4,342	4,663

Energy	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
millions of kilowatt-hours											
Net generation by:											
19. Hydro-electric .....	..	96,517	105,770	103,692	103,695	103,539	...	...	...	...	...
20. Steam - Conventional)				(8,822	12,543	17,111	...	...	...	...	...
21. Nuclear)				(-	22	87	...	...	...	...	...
22. Internal combustion)	..	7,339	8,271	(509	514	593	...	...	...	...	...
23. Gas turbine)				(248	257	312	...	...	...	...	...
24. Total net generation .....	..	103,856	114,041	113,271	117,031	121,642	...	...	...	...	...
Receipts of energy from:											
(a) Firm:											
25. Other provinces .....	...	...	...	...	...	...	...	...	...	...	...
26. United States .....	..	..	..	8	22	12	12	12	12	12	12
(b) Secondary:											
27. Other provinces .....	...	...	...	...	...	...	...	...	...	...	...
28. United States .....	..	..	..	1,392	2,764	2,867	...	...	...	...	...
29. Total receipts of energy .....	..	515	367	1,400	2,786	2,879	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
30. Other provinces .....	...	...	...	...	...	...	...	...	...	...	...
31. United States	1,418	1,253	1,283	1,122	817	858	858	702	644	671	698
(b) Secondary:											
32. Other provinces .....	...	...	...	...	...	...	...	...	...	...	...
33. United States .....	..	3,331	4,228	3,059	3,267	2,754	...	...	...	...	...
34. Total deliveries of energy .....	..	4,584	5,511	4,180	4,084	3,612	...	...	...	...	...
35. Total energy available (24 + 29 - 34)	..	99,787	108,897	110,491	115,733	120,909	...	...	...	...	...
36. Secondary energy delivered within Canada .....	..	5,684	6,615	5,415	4,690	3,655	...	...	...	...	...
37. Firm energy available within Canada (35 - 36)	55,516	94,103	102,282	105,076	111,043	117,254	125,534	134,113	141,667	149,688	157,923
38. Indicated shortage	312	-	-	-	-	-	-	-	-	-	-
39. Firm energy requirement within Canada (37 + 38) ..	55,828	94,103	102,282	105,076	111,043	117,254	125,534	134,113	141,667	149,688	157,923
40. Firm energy requirement on Canada (30 + 31 + 39)	57,246	95,356	103,565	106,198	111,860 ^c	118,112	126,392	134,815	142,311	150,359	158,621

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements

Capability and peak load	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
thousands of kilowatts											
Capability:											
Net generating capability:											
1. Hydro-electric	188	243	255	258	350	444	444	447	449	449	449
2. Steam - Conventional)				(40	45	45	45	45	45	55	55
3. Nuclear)	12	24	54	(-	-	-	-	-	-	-	-
4. Internal combustion)				(13	14	7	8	10	10	11	11
5. Gas turbine)				(-	-	-	-	-	-	-	-
6. Total net generating capability	200	267	309	311	409	496	497	502	504	515	515
Receipts of firm power from:											
7. Other provinces	-	-	-	-	-	-	-	-	-	-	-
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	-	-	-	-	-	-	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	-	7	14	13	13	10	10	10	10	10	10
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	-	7	14	13	13	10	10	10	10	10	10
13. Total net capability (6 + 9 - 12)	200	260	295	298	396	486	487	492	494	505	505
Peak loads:											
14. Firm power peak load within province	182	231	245	242	294	349	389	456	456	456	481
15. Indicated shortages	-	-	-	-	-	28	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	182	231	245	242	294	377	389	456	466	466	481
17. Firm power peak load on province (12 + 16)	182	238	259	255	307	387	399	466	476	476	491
Indicated reserve:											
18. Indicated reserve (13 - 16)	18	29	50	56	102	109	98	36	28	39	24

Energy	Actual						Forecast				
	1951	1955	1960	1961	1962	1963	1964	1965	1966	1967	1968
millions of kilowatt-hours											
Net generation by:											
19. Hydro-electric .....	..	1,320	1,403	1,322	1,556	1,930	...	...	...	...	...
20. Steam - Conventional)				(116	101	96	...	...	...	...	...
21. Nuclear )				( -	-	-	...	...	...	...	...
22. Internal combustion)	..	54	76	(10	9	8	...	...	...	...	...
23. Gas turbine )				( -	-	-	...	...	...	...	...
24. Total net generation .....	..	1,374	1,479	1,448	1,666	2,034	...	...	...	...	...
Receipts of energy from:											
(a) Firm:											
25. Other provinces .....	..	..	..	-	-	-	-	-	-	-	-
26. United States .....	..	..	..	-	-	-	-	-	-	-	-
(b) Secondary:											
27. Other provinces .....	..	..	..	-	-	-	...	...	...	...	...
28. United States .....	..	..	..	-	-	-	...	...	...	...	...
29. Total receipts of energy .....	..	..	..	-	-	-	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
30. Other provinces	-	33	49	80	81	36	36	36	36	36	36
31. United States	-	-	-	-	-	-	-	-	-	-	-
(b) Secondary:											
32. Other provinces .....	..	18	36	3	-	37	...	...	...	...	...
33. United States .....	..	..	..	-	-	-	...	...	...	...	...
34. Total deliveries of energy .....	..	51	85	83	81	73	...	...	...	...	...
35. Total energy available (24 + 29 - 34)	..	1,323	1,394	1,365	1,585	1,961	...	...	...	...	...
36. Secondary energy delivered within province .....	..	108	74	4	112	83	...	...	...	...	...
37. Firm energy available within province (35 - 36) ..	1,040	1,215	1,320	1,361	1,473	1,878	1,927	2,156	2,206	2,241	2,293
38. Indicated shortage	-	-	-	-	-	-	-	-	-	-	-
39. Firm energy requirement within province (37 + 38)	1,040	1,215	1,320	1,361	1,473	1,878	1,927	2,156	2,206	2,241	2,293
40. Firm energy requirement on province (30 + 31 + 39)	1,040	1,248	1,369	1,441	1,554	1,914	1,963	2,192	2,242	2,277	2,329

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements

Capability and peak load	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
thousands of kilowatts											
Capability:											
Net generating capability:											
1. Hydro-electric	-	-	-	-	-	-	-	-	-	-	-
2. Steam - Conventional)				(32	32	51	51	51	51	71	71
3. Nuclear)				(-	-	-	-	-	-	-	-
4. Internal combustion)	18	25	38	(5	5	7	7	7	7	7	7
5. Gas turbine)				(-	-	-	-	-	-	-	-
6. Total net generating capability	18	25	38	37	37	58	58	58	58	78	78
Receipts of firm power from:											
7. Other provinces	-	-	-	-	-	-	-	-	-	-	-
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	-	-	-	-	-	-	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	-	-	-	-	-	-	-	-	-	-	-
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	-	-	-	-	-	-	-	-	-	-	-
13. Total net capability (6 + 9 - 12)	18	25	38	37	37	58	58	58	58	78	78
Peak loads:											
14. Firm power peak load within province	8	19	21	24	25	27	30	33	35	38	40
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	8	19	21	24	25	27	30	33	35	38	40
17. Firm power peak load on province (12 + 16)	8	19	21	24	25	27	30	33	35	38	40
Indicated reserve:											
18. Indicated reserve (13 - 16)	10	6	17	13	12	31	23	25	23	40	38

Energy	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
millions of kilowatt-hours											
Net generation by:											
19. Hydro-electric .....	..	-	-	-	-	-	...	...	...	...	...
20. Steam - Conventional)				(81	93	102	...	...	...	...	...
21. Nuclear )				( -	-	-	...	...	...	...	...
22. Internal combustion)	..	71	79	(7	8	9	...	...	...	...	...
23. Gas turbine )				( -	-	-	...	...	...	...	...
24. Total net generation .....	..	71	79	88	101	111	...	...	...	...	...
Receipts of energy from:											
(a) Firm:											
25. Other provinces .....	..	..	..	-	-	-	-	-	-	-	-
26. United States .....	..	..	..	-	-	-	-	-	-	-	-
(b) Secondary:											
27. Other provinces .....	..	..	..	-	-	-	...	...	...	...	...
28. United States .....	..	..	..	-	-	-	...	...	...	...	...
29. Total receipts of energy .....	..	..	..	-	-	-	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
30. Other provinces	-	-	-	-	-	-	-	-	-	-	-
31. United States	-	-	-	-	-	-	-	-	-	-	-
(b) Secondary:											
32. Other provinces .....	-	-	-	-	-	-	...	...	...	...	...
33. United States .....	-	-	-	-	-	-	...	...	...	...	...
34. Total deliveries of energy .....	-	-	-	-	-	-	...	...	...	...	...
35. Total energy available (24 + 29 - 34)	..	71	79	88	101	111	...	...	...	...	...
36. Secondary energy delivered within province .....	-	-	-	-	-	-	...	...	...	...	...
37. Firm energy available within province (35 - 36) ..	34	71	79	88	101	111	120	129	138	147	158
38. Indicated shortage	-	-	-	-	-	-	-	-	-	-	-
39. Firm energy requirement within province (37 + 38)	34	71	79	88	101	111	120	129	138	147	158
40. Firm energy requirement on province (30 + 31 + 39)	34	71	79	88	101	111	120	129	138	147	158

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements

Capability and peak load	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	114	126	132	141	141	143	143	143	143	154	169
2. Steam - Conventional)				(365	378	387	387	482	512	512	512
3. Nuclear)				(-	-	-	-	-	-	-	-
4. Internal combustion)				(2	2	2	2	2	2	2	2
5. Gas turbine)				(-	-	-	-	-	-	-	-
6. Total net generating capability	248	493	499	508	521	532	532	627	657	668	683
Receipts of firm power from:											
7. Other provinces	-	-	-	-	-	-	-	-	-	-	-
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	-	-	-	-	-	-	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	2	3	3	1	1	1	-	25	-	-	-
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	2	3	3	1	1	1	-	25	-	-	-
13. Total net capability (6 + 9 - 12)	246	490	496	507	520	531	532	602	657	668	683
Peak loads:											
14. Firm power peak load within province	185	330	356	347	388	411	438	456	488	517	547
15. Indicated shortages	2	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	187	330	356	347	388	411	438	466	488	517	547
17. Firm power peak load on province (12 + 16)	189	333	359	348	389	412	438	491	488	517	547
Indicated reserve:											
18. Indicated reserve (13 - 16)	59	160	140	160	132	120	94	136	169	151	136

TABLE 1. Capacity, Firm Power Peak Load, and Energy Requirements - Concluded

Energy	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
millions of kilowatt-hours											
Net generation by:											
19. Hydro-electric .....	..	674	632	549	710	799	...	...	...	...	...
20. Steam - Conventional)				(1,301	1,300	1,313	...	...	...	...	...
21. Nuclear ) .....	..	966	1,162	( -	-	-	...	...	...	...	...
22. Internal combustion )				( -	-	-	...	...	...	...	...
23. Gas turbine ) .....				( -	-	-	...	...	...	...	...
24. Total net generation .....	..	1,640	1,794	1,850	2,010	2,112	...	...	...	...	...
Receipts of energy from:											
(a) Firm:											
25. Other provinces .....	..	..	..	16	-	-	-	-	-	-	-
26. United States .....	..	..	..	-	-	-	-	-	-	-	-
(b) Secondary:											
27. Other provinces .....	..	..	..	-	67	57	...	...	...	...	...
28. United States .....	..	..	..	-	-	-	...	...	...	...	...
29. Total receipts of energy .....	..	..	..	16	67	57	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
30. Other provinces	-	14	80	12	7	8	7	186	-	-	-
31. United States	-	-	-	-	-	-	-	-	-	-	-
(b) Secondary:											
32. Other provinces	-	-	-	79	101	60	...	...	...	...	...
33. United States .....	-	-	-	-	-	-	...	...	...	...	...
34. Total deliveries of energy	-	14	80	91	108	68	...	...	...	...	...
35. Total energy available (24 + 29 - 34)	..	1,626	1,714	1,775	1,969	2,101	...	...	...	...	...
36. Secondary energy delivered within province .....	..	-	-	-	4	1	...	...	...	...	...
37. Firm energy available within province (35 - 36) ..	1,027	1,626	1,714	1,775	1,965	2,100	2,212	2,345	2,519	2,662	2,769
38. Indicated shortage	-	-	-	-	-	-	-	-	-	-	-
39. Firm energy requirement within province (37 + 38)	1,027	1,626	1,714	1,775	1,965	2,100	2,212	2,345	2,519	2,662	2,769
40. Firm energy requirement on province (30 + 31 + 39)	1,033	1,640	1,794	1,787	1,972	2,108	2,219	2,531	2,519	2,662	2,769

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements

Capability and peak load	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
thousands of kilowatts											
Capability:											
Net generating capability:											
1. Hydro-electric	90	185	186	185	233	224	226	247	248	249	417
2. Steam - Conventional)				(243	240	304	304	316	413	413	413
3. Nuclear)				(-	-	-	-	-	-	-	-
4. Internal combustion)	108	188	202	(B	7	7	7	7	7	7	7
5. Gas turbine)				(-	-	-	-	-	-	-	-
6. Total net generating capability	198	373	388	436	480	535	537	570	668	669	837
Receipts of firm power from:											
7. Other provinces	2	7	7	6	6	5	5	31	6	7	7
8. United States	-	-	-	-	2	2	2	3	3	3	3
9. Total receipts	2	7	7	6	8	7	7	34	9	10	10
Deliveries of firm power to:											
10. Other provinces	-	-	-	-	-	-	-	-	-	-	-
11. United States	4	9	23	22	28	28	33	39	40	44	48
12. Total deliveries	4	9	23	22	28	28	33	39	40	44	48
13. Total net capability (6 + 9 - 12)	196	371	372	420	460	514	511	565	637	635	799
Peak loads:											
14. Firm power peak load within province	184	291	319	319	347	401	459	496	539	575	615
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	184	291	319	319	347	401	459	496	539	575	615
17. Firm power peak load on province (12 + 16)	188	300	342	341	375	429	492	535	579	619	663
Indicated reserve:											
18. Indicated reserve (13 - 16)	12	80	53	101	113	113	52	69	98	60	184

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements - Continued

Energy	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
millions of kilowatt-hours											
Net generation by:											
19. Hydro-electric .....	..	975	887	994	1,191	1,272	...	...	...	...	...
20. Steam - Conventional)				(870	895	1,019	...	...	...	...	...
21. Nuclear )				( -	-	-	...	...	...	...	...
22. Internal combustion)	..	692	842	(18	2	5	...	...	...	...	...
23. Gas turbine )				( -	-	-	...	...	...	...	...
24. Total net generation .....	..	1,667	1,729	1,882	2,088	2,296	...	...	...	...	...
Receipts of energy from:											
(a) Firm:											
25. Other provinces .....	..	..	..	31	28	29	30	211	28	30	33
26. United States .....	..	..	..	-	14	12	12	12	12	12	12
(b) Secondary:											
27. Other provinces .....	..	..	..	79	101	60	...	...	...	...	...
28. United States .....	..	..	..	14	3	2	...	...	...	...	...
29. Total receipts of energy .....	..	32	111	124	146	103	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
30. Other provinces	-	-	-	-	-	-	-	-	-	-	-
31. United States	41	51	58	125	166	178	200	243	246	265	284
(b) Secondary:											
32. Other provinces .....	..	-	-	16	67	57	...	...	...	...	...
33. United States .....	..	109	107	78	84	68	...	...	...	...	...
34. Total deliveries of energy .....	..	160	165	219	317	303	...	...	...	...	...
35. Total energy available (24 + 29 - 34)	..	1,539	1,675	1,787	1,917	2,096	...	...	...	...	...
36. Secondary energy delivered within province .....	..	2	1	5	5	1	...	...	...	...	...
37. Firm energy available within province (35 - 36) ..	1,002	1,537	1,674	1,782	1,912	2,095	2,308	2,752	3,013	3,269	3,450
38. Indicated shortage	-	-	-	-	-	-	-	-	-	-	-
39. Firm energy requirement within province (37 + 38)	1,002	1,537	1,674	1,782	1,912	2,095	2,308	2,752	3,013	3,269	3,450
40. Firm energy requirement on province (30 + 31 + 39)	1,043	1,588	1,732	1,907	2,078	2,273	2,508	2,995	3,259	3,534	3,734

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements

Capability and peak load	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
thousands of kilowatts											
Capability:											
Net generating capability:											
1. Hydro-electric	4,587	7,612	8,658	8,628	8,830	9,271	9,460	10,093	10,527	10,781	11,285
2. Steam - Conventional)				(59	41	59	209	359	372	372	372
3. Nuclear)				(-	-	-	-	-	-	-	-
4. Internal combustion)	26	69	106	(15	12	10	6	6	6	6	6
5. Gas turbine)				(36	36	36	36	36	36	36	36
6. Total net generating capability	4,613	7,681	8,764	8,738	8,919	9,376	9,711	10,494	10,941	11,195	11,699
Receipts of firm power from:											
7. Other provinces	1	9	16	19	15	12	12	12	12	12	12
8. United States	-	-	-	2	2	-	-	-	-	-	-
9. Total receipts	1	9	16	21	17	12	12	12	12	12	12
Deliveries of firm power to:											
10. Other provinces	735	696	698	696	697	703	706	709	712	715	674
11. United States	56	57	57	38	4	6	6	6	6	6	6
12. Total deliveries	791	753	755	734	701	709	712	715	718	721	680
13. Total net capability (6 + 9 - 12)	3,823	6,937	8,025	8,025	8,235	8,679	9,011	9,791	10,235	10,486	11,031
Peak loads:											
14. Firm power peak load within province	3,462	5,466	5,871	6,258	6,370	7,118	7,653	8,102	8,599	9,046	9,546
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	3,462	5,466	5,871	6,258	6,370	7,118	7,653	8,102	8,599	9,046	9,546
17. Firm power peak load on province (12 + 16)	4,253	6,219	6,626	6,992	7,071	7,827	8,365	8,817	9,317	9,767	10,226
Indicated reserve:											
18. Indicated reserve (13 - 16)	361	1,471	2,154	1,767	1,865	1,561	1,358	1,689	1,636	1,440	1,485

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements - Concluded

Quebec

Energy	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
millions of kilowatt-hours											
Net generation by:											
19. Hydro-electric .....	..	44,418	50,000	49,432	49,799	49,454	...	...	...	...	...
20. Steam - Conventional)				(276	288	320	...	...	...	...	...
21. Nuclear ) .....	..	209	273	( -	-	-	...	...	...	...	...
22. Internal combustion)				(7	13	44	...	...	...	...	...
23. Gas turbine)				(11	29	1	...	...	...	...	...
24. Total net generation .....	..	44,627	50,273	49,726	50,129	49,819	...	...	...	...	...
Receipts of energy from:											
(a) Firm:											
25. Other provinces .....	..	..	..	87	110	44	45	45	46	46	46
26. United States .....	..	..	..	7	7	-	-	-	-	-	-
(b) Secondary:											
27. Other provinces .....	..	..	..	16	-	99	...	...	...	...	...
28. United States .....	..	..	..	-	-	-	...	...	...	...	...
29. Total receipts of energy .....	..	83	103	110	117	143	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
30. Other provinces	4,456	4,211	4,193	4,207	3,964	3,975	4,293	4,302	4,323	4,340	4,317
31. United States	490	492	496	353	14	6	6	6	6	6	6
(b) Secondary:											
32. Other provinces .....	..	1,415	1,723	1,649	1,963	1,004	...	...	...	...	...
33. United States .....	..	54	62	54	294	261	...	...	...	...	...
34. Total deliveries of energy .....	..	6,172	6,474	6,263	6,235	5,246	...	...	...	...	...
35. Total energy available (24 + 29 - 34)	..	38,538	43,902	43,573	44,011	44,716	...	...	...	...	...
36. Secondary energy delivered within province .....	..	4,503	5,350	4,551	3,622	2,613	...	...	...	...	...
37. Firm energy available within province (35 - 36) ..	23,189	34,035	38,552	39,022	40,389	42,103	44,826	48,310	50,834	53,434	56,123
38. Indicated shortage	215	-	-	-	-	-	-	-	-	-	-
39. Firm energy requirement within province (37 + 38)	23,404	34,035	38,552	39,022	40,389	42,103	44,826	48,310	50,834	53,434	56,123
40. Firm energy requirement on province (30 + 31 + 39)	28,350	38,738	43,241	43,582	44,367	46,084	49,125	52,618	55,163	57,780	60,446

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements

Capability and peak load	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
thousands of kilowatts											
<u>Capability:</u>											
Net generating capability:											
1. Hydro-electric	2,476	5,467	5,464	5,292	5,285	5,601	5,602	5,728	5,864	5,885	5,885
2. Steam - Conventional)				(1,555	1,926	2,376	2,658	2,940	3,225	3,507	4,071
3. Nuclear)				(-	-	-	-	-	-	218	218
4. Internal combustion)	348	808	1,186	(11	12	12	8	11	12	13	14
5. Gas turbine)				(-	-	-	-	-	-	-	-
6. Total net generating capability	2,824	6,275	6,650	6,858	7,223	7,989	8,268	8,679	9,101	9,623	10,188
Receipts of firm power from:											
7. Other provinces	744	692	694	695	692	699	701	703	707	708	667
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	744	692	694	695	692	699	701	703	707	708	667
Deliveries of firm power to:											
10. Other provinces	1	2	2	5	2	2	2	2	2	2	2
11. United States	85	86	86	86	89	88	88	45	45	47	47
12. Total deliveries	86	88	88	91	91	90	90	47	47	49	49
13. Total net capability (6 + 9 - 12)	3,482	6,879	7,256	7,462	7,824	8,598	8,879	9,335	9,761	10,282	10,806
<u>Peak loads:</u>											
14. Firm power peak load within province	3,292	6,154	6,391	6,615	6,913	7,412	7,852	8,282	8,770	9,280	9,790
15. Indicated shortages	319	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	3,611	6,154	6,391	6,615	6,913	7,412	7,852	8,282	8,770	9,280	9,790
17. Firm power peak load on province (12 + 16)	3,697	6,242	6,479	6,706	7,004	7,502	7,942	8,329	8,817	9,329	9,839
<u>Indicated reserve:</u>											
18. Indicated reserve (13 - 16)	- 129	725	865	847	911	1,186	1,027	1,053	991	1,002	1,016

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements - Concluded

Energy	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
millions of kilowatt-hours											
Net generation by:											
19. Hydro-electric .....	..	32,301	34,870	33,654	30,872	29,099	...	...	...	...	...
20. Steam - Conventional)				(1,187	4,335	8,291	...	...	...	...	...
21. Nuclear)				(-	22	87	...	...	...	...	...
22. Internal combustion)	..	946	822	(31	29	24	...	...	...	...	...
23. Gas turbine)				(-	1	-	...	...	...	...	...
24. Total net generation .....	..	33,247	35,692	34,872	35,259	37,501	...	...	...	...	...
Receipts of energy from:											
(a) Firm:											
25. Other provinces .....	..	..	..	4,188	3,943	3,954	4,270	4,277	4,295	4,310	4,284
26. United States .....	..	..	..	-	-	-	-	-	-	-	-
(b) Secondary:											
27. Other provinces .....	..	..	..	1,649	2,009	1,008	...	...	...	...	...
28. United States .....	..	..	..	1,362	2,704	2,846	...	...	...	...	...
29. Total receipts of energy .....	..	6,094	6,182	7,199	8,656	7,808	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
30. Other provinces	3	5	6	7	7	8	9	9	10	10	10
31. United States	703	710	727	642	635	672	652	453	392	400	408
(b) Secondary:											
32. Other provinces .....	..	83	131	275	221	257	...	...	...	...	...
33. United States .....	..	3,154	4,043	2,909	2,875	2,406	...	...	...	...	...
34. Total deliveries of energy .....	..	3,952	4,907	3,833	3,738	3,343	...	...	...	...	...
35. Total energy available (24 + 29 - 34)	..	35,389	36,967	38,238	40,177	41,966	...	...	...	...	...
36. Secondary energy delivered within province .....	..	485	585	511	546	437	...	...	...	...	...
37. Firm energy available within province (35 - 36) ..	20,395	34,904	36,382	37,727	39,631	41,529	44,311	46,615	49,397	52,378	55,663
38. Indicated shortage	97	-	-	-	-	-	-	-	-	-	-
39. Firm energy requirement within province (37 + 38)	20,492	34,904	36,382	37,727	39,631	41,529	44,311	46,615	49,397	52,378	55,663
40. Firm energy requirement on province (30 + 31 + 39)	21,198	35,619	37,115	38,376	40,273	42,209	44,972	47,077	49,799	52,788	56,081

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements

Capability and peak load	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	413	566	701	735	735	735	945	1,050	1,050	1,050	1,050
2. Steam - Conventional)				(166	291	291	291	291	291	291	291
3. Nuclear)	10	168	231	(-	-	-	-	-	-	-	-
4. Internal combustion)				(4	7	7	8	8	9	9	9
5. Gas turbine)				(-	-	-	-	-	-	-	-
6. Total net generating capability	423	734	932	905	1,033	1,033	1,244	1,349	1,350	1,350	1,350
Receipts of firm power from:											
7. Other provinces	77	72	86	83	87	134	84	84	84	84	84
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	77	72	86	83	87	134	84	84	84	84	84
Deliveries of firm power to:											
10. Other provinces	9	-	-	-	-	-	-	-	-	-	-
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	9	-	-	-	-	-	-	-	-	-	-
13. Total net capability (6 + 9 - 12)	491	806	1,018	988	1,120	1,167	1,328	1,433	1,434	1,434	1,434
Peak loads:											
14. Firm power peak load within province	454	690	772	849	907	955	987	1,031	1,078	1,127	1,177
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	454	690	772	849	907	955	987	1,031	1,078	1,127	1,177
17. Firm power peak load on province (12 + 16)	463	690	772	849	907	955	987	1,031	1,078	1,127	1,177
Indicated reserve:											
18. Indicated reserve (13 - 16)	37	116	246	139	213	212	341	402	356	307	257

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements - Concluded

Energy	Actual						Forecast				
	1951	1954	1960	1961	1962	1963	1964	1965	1966	1967	1968
millions of kilowatt-hours											
Net generation by:											
19. Hydro-electric .....	..	3,582	3,735	3,591	4,220	4,736	...	...	...	...	...
20. Steam - Conventional)				(238	120	61	...	...	...	...	...
21. Nuclear )				( -	-	-	...	...	...	...	...
22. Internal combustion)	..	51	75	(11	12	13	...	...	...	...	...
23. Gas turbine )				( -	-	-	...	...	...	...	...
24. Total net generation .....	..	3,633	3,810	3,840	4,352	4,810	...	...	...	...	...
Receipts of energy from:											
(a) Firm:											
25. Other provinces .....	..	..	..	623	647	687	686	686	686	686	686
26. United States .....	..	..	..	-	-	-	-	-	-	-	-
(b) Secondary:											
27. Other provinces .....	..	..	..	301	199	198	...	...	...	...	...
28. United States .....	..	..	..	-	-	-	...	...	...	...	...
29. Total receipts of energy .....	..	652	739	924	846	885	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
30. Other provinces	79	-	-	2	29	-	-	-	-	-	-
31. United States	-	-	-	-	-	-	-	-	-	-	-
(b) Secondary:											
32. Other provinces .....	..	3	4	4	46	65	...	...	...	...	...
33. United States .....	..	-	-	-	-	-	...	...	...	...	...
34. Total deliveries of energy .....	..	3	4	6	75	65	...	...	...	...	...
35. Total energy available (24 + 29 - 34)	..	4,282	4,545	4,758	5,123	5,630	...	...	...	...	...
36. Secondary energy delivered within province .....	..	393	344	60	120	185	...	...	...	...	...
37. Firm energy available within province (35 - 36) ..	2,443	3,889	4,201	4,698	5,003	5,445	5,658	5,868	6,111	6,366	6,636
38. Indicated shortage	-	-	-	-	-	-	-	-	-	-	-
39. Firm energy requirement within province (37 + 38)	2,443	3,889	4,201	4,698	5,003	5,445	5,658	5,868	6,111	6,366	6,636
40. Firm energy requirement on province (30 + 31 + 39)	2,522	3,889	4,201	4,700	5,032	5,445	5,658	5,868	6,111	6,366	6,636

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements

Capability and peak load	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
thousands of kilowatts											
Capability:											
Net generating capability:											
1. Hydro-electric	85	88	99	107	107	208	309	309	343	376	477
2. Steam - Conventional)				(527	575	492	492	492	492	492	492
3. Nuclear)				(-	-	-	-	-	-	-	-
4. Internal combustion)	160	583	653	(
5. Gas turbine)				(35	37	36	36	35	35	35	35
				(43	33	39	39	39	39	39	39
6. Total net generating capability	245	671	752	757	752	775	876	875	909	942	1,043
Receipts of firm power from:											
7. Other provinces	-	1	1	-	-	-	-	-	-	-	-
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	-	1	1	-	-	-	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	77	72	86	88	87	134	84	84	84	84	84
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	77	72	86	88	87	134	84	84	84	84	84
13. Total net capability (6 + 9 - 12)	168	600	667	669	665	641	792	791	825	858	959
Peak loads:											
14. Firm power peak load within province	127	377	418	466	497	531	579	632	684	711	809
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	127	377	418	466	497	531	579	632	684	711	809
17. Firm power peak load on province (12 + 16)	204	449	504	554	584	665	663	716	768	795	893
Indicated reserve:											
18. Indicated reserve (13 - 16)	41	223	249	203	168	110	213	159	141	147	150

Energy	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
millions of kilowatt-hours											
Net generation by:											
19. Hydro-electric .....	..	586	620	658	704	985	...	...	...	...	...
20. Steam - Conventional)				(1,682	1,844	1,833	...	...	...	...	...
21. Nuclear )				( -	-	-	...	...	...	...	...
22. Internal combustion)	..	1,498	1,659	(109	97	106	...	...	...	...	...
23. Gas turbine)				(62	37	49	...	...	...	...	...
24. Total net generation .....	..	2,084	2,279	2,511	2,682	2,973	...	...	...	...	...
Receipts of energy from:											
(a) Firm:											
25. Other provinces .....	..	..	..	-	29	-	-	-	-	-	-
26. United States .....	..	..	..	-	-	-	-	-	-	-	-
(b) Secondary:											
27. Other provinces .....	..	..	..	6	-	62	...	...	...	...	...
28. United States .....	..	..	..	-	-	-	...	...	...	...	...
29. Total receipts of energy .....	..	8	6	6	29	62	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
30. Other provinces	515	517	575	621	647	687	686	686	686	686	686
31. United States	-	-	-	-	-	-	-	-	-	-	-
(b) Secondary:											
32. Other provinces .....	..	78	44	41	-	4	...	...	...	...	...
33. United States .....	..	-	-	-	-	-	...	...	...	...	...
34. Total deliveries of energy .....	..	595	619	662	647	691	...	...	...	...	...
35. Total energy available (24 + 29 - 34)	..	1,497	1,666	1,855	2,064	2,344	...	...	...	...	...
36. Secondary energy delivered within province .....	..	-	-	-	-	17	...	...	...	...	...
37. Firm energy available within province (35 - 36) ..	467	1,497	1,666	1,855	2,064	2,327	2,535	2,798	2,941	3,234	3,529
38. Indicated shortage	-	-	-	-	-	-	-	-	-	-	-
39. Firm energy requirement within province (37 + 38)	467	1,497	1,666	1,855	2,064	2,327	2,535	2,798	2,941	3,234	3,529
40. Firm energy requirement on province (30 + 31 + 39)	982	2,014	2,241	2,476	2,711	3,014	3,221	3,484	3,627	3,920	4,215

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements

Capability and peak load	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
thousands of kilowatts											
Capability:											
Net generating capability:											
1. Hydro-electric	162	238	318	327	327	326	476	476	626	626	626
2. Steam - Conventional)				(498	643	713	745	745	817	1,102	1,164
3. Nuclear)				(-	-	-	-	-	-	-	-
4. Internal combustion)	109	530	607	(28	33	31	32	35	37	37	38
5. Gas turbine)				(108	130	130	130	131	131	132	162
6. Total net generating capability	271	768	925	953	1,133	1,200	1,383	1,387	1,611	1,897	1,990
Receipts of firm power from:											
7. Other provinces	-	3	3	-	-	-	-	-	-	-	-
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	-	3	3	-	-	-	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	5	1	1	5	4	10	12	12	14	13	13
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	5	1	1	5	4	10	12	12	14	13	13
13. Total net capability (6 + 9 - 12)	266	770	927	948	1,129	1,190	1,371	1,375	1,597	1,884	1,977
Peak loads:											
14. Firm power peak load within province	220	649	714	836	882	984	1,066	1,154	1,244	1,342	1,445
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	220	649	714	836	882	984	1,066	1,154	1,244	1,342	1,445
17. Firm power peak load on province (12 + 16)	225	550	715	841	886	994	1,078	1,166	1,258	1,355	1,458
Indicated reserve:											
18. Indicated reserve (13 - 16)	46	121	213	112	247	206	305	221	353	542	532

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements - Concluded

Energy	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
millions of kilowatt-hours											
Net generation by:											
19. Hydro-electric .....	..	842	887	1,023	956	881	...	...	...	...	...
20. Steam - Conventional)				(2,534	2,900	3,294	...	...	...	...	...
21. Nuclear )				( -	-	-	...	...	...	...	...
22. Internal combustion)	..	2,228	2,540	(51	59	60	...	...	...	...	...
23. Gas turbine)				(165	187	257	...	...	...	...	...
24. Total net generation .....	..	3,070	3,427	3,773	4,102	4,492	...	...	...	...	...
Receipts of energy from:											
(a) Firm:											
25. Other provinces .....	..	..	..	6	23	4	6	6	7	7	8
26. United States .....	..	..	..	-	-	-	-	-	-	-	-
(b) Secondary:											
27. Other provinces .....	..	..	..	30	-	23	...	...	...	...	...
28. United States .....	..	..	..	-	-	-	...	...	...	...	...
29. Total receipts of energy .....	..	34	30	36	23	27	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
30. Other provinces	20	5	3	1	4	-	-	-	-	-	-
31. United States	-	-	-	-	-	-	-	-	-	-	-
(b) Secondary:											
32. Other provinces .....	..	2	2	-	-	-	...	...	...	...	...
33. United States .....	..	..	..	..	..	..	...	...	...	...	...
34. Total deliveries of energy .....	..	7	5	1	4	-	...	...	...	...	...
35. Total energy available (24 + 29 - 34)	..	3,097	3,452	3,808	4,121	4,519	...	...	...	...	...
36. Secondary energy delivered within province .....	..	-	-	-	-	-	...	...	...	...	...
37. Firm energy available within province (35 - 36) ..	1,114	3,097	3,452	3,808	4,121	4,519	4,933	5,326	5,740	6,188	6,663
38. Indicated shortage .....	..	-	-	-	-	-	-	-	-	-	-
39. Firm energy requirement within province (37 + 38)	1,114	3,097	3,452	3,808	4,121	4,519	4,933	5,326	5,740	6,188	6,663
40. Firm energy requirement on province (30 + 31 + 39)	1,134	3,102	3,455	3,809	4,125	4,519	4,933	5,326	5,740	6,188	6,663

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements

Capability and peak load	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
thousands of kilowatts											
Capability:											
Net generating capability:											
1. Hydro-electric	908	2,524	2,659	2,672	2,599	2,670	2,670	2,674	2,764	2,764	3,094
2. Steam - Conventional)				(117	424	475	630	634	637	807	809
3. Nuclear)				(-	-	-	-	-	-	-	-
4. Internal combustion)	107	353	369	(109	112	106	118	117	117	117	117
5. Gas turbine)				(172	172	177	177	177	177	177	177
6. Total net generating capability	1,015	2,877	3,028	3,070	3,307	3,428	3,595	3,602	3,695	3,865	4,197
Receipts of firm power from:											
7. Other provinces	5	-	-	5	4	10	12	12	13	13	13
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	5	-	-	5	4	10	12	12	13	13	13
Deliveries of firm power to:											
10. Other provinces	-	3	3	-	-	-	-	-	-	-	-
11. United States	30	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	30	3	3	-	-	-	-	-	-	-	-
13. Total net capability (6 + 9 - 12)	990	2,874	3,025	3,075	3,311	3,438	3,607	3,614	3,708	3,878	4,210
Peak loads:											
14. Firm power peak load within province	861	1,963	2,123	2,368	2,317	2,537	2,780	2,921	3,018	3,204	3,307
15. Indicated shortages	-	-	-	-	-	-	-	28	70	86	88
16. Total indicated firm power peak load within province (14 + 15)	861	1,963	2,123	2,368	2,317	2,537	2,780	2,949	3,088	3,290	3,395
17. Firm power peak load on province (12 + 16)	891	1,966	2,126	2,368	2,317	2,537	2,780	2,949	3,088	3,290	3,395
Indicated reserve:											
18. Indicated reserve (13 - 16)	129	911	902	707	994	901	827	665	620	588	815

Energy	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
millions of kilowatt-hours											
Net generation by:											
19. Hydro-electric .....	..	11,673	12,584	12,295	13,500	14,194	...	...	...	...	...
20. Steam - Conventional)				(535	665	780	...	...	...	...	...
21. Nuclear )				( -	-	-	...	...	...	...	...
22. Internal combustion)	..	603	729	(246	261	300	...	...	...	...	...
23. Gas turbine)				(10	3	5	...	...	...	...	...
24. Total net generation .....	..	12,276	13,313	13,086	14,429	15,279	...	...	...	...	...
Receipts of energy from:											
(a) Firm:											
25. Other provinces .....	..	..	..	1	4	-	-	-	-	-	-
26. United States .....	..	..	..	1	1	-	-	-	-	-	-
(b) Secondary:											
27. Other provinces .....	..	..	..	-	-	-	...	...	...	...	...
28. United States .....	..	..	..	16	57	19	...	...	...	...	...
29. Total receipts of energy .....	..	30	72	18	62	19	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
30. Other provinces	-	6	3	6	23	4	6	6	7	7	8
31. United States	184	-	2	2	2	2	-	-	-	-	-
(b) Secondary:											
32. Other provinces .....	..	28	27	30	-	23	...	...	...	...	...
33. United States .....	..	14	16	17	14	19	...	...	...	...	...
34. Total deliveries of energy .....	..	48	48	55	39	48	...	...	...	...	...
35. Total energy available (24 + 29 - 34)	..	12,258	13,337	13,049	14,452	15,250	...	...	...	...	...
36. Secondary energy delivered within province .....	..	167	233	242	230	268	...	...	...	...	...
37. Firm energy available within province (35 - 36) ..	4,741	12,091	13,104	12,807	14,222	14,982	16,536	17,652	18,605	19,603	20,471
38. Indicated shortage	-	-	-	-	-	-	-	-	-	-	-
39. Firm energy requirement within province (37 + 38)	4,741	12,091	13,104	12,807	14,222	14,982	16,536	17,652	18,605	19,603	20,471
40. Firm energy requirement on province (30 + 31 + 39)	4,925	12,097	13,109	12,815	14,247	14,988	16,542	17,658	18,612	19,610	20,479

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements

Capability and peak load	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
thousands of kilowatts											
Capability:											
Net generating capability:											
1. Hydro-electric	21	37	44	44	44	44	44	44	44	44	44
2. Steam - Conventional)				(1	1	1	1	1	1	1	1
3. Nuclear)				(-	-	-	-	-	-	-	-
4. Internal combustion)	-	4	11	(	10	11	12	12	12	12	12
5. Gas turbine)				(-	-	-	1	1	1	1	1
6. Total net generating capability	21	41	55	55	55	56	58	58	58	58	58
Receipts of firm power from:											
7. Other provinces	-	-	-	-	-	-	-	-	-	-	-
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	-	-	-	-	-	-	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	-	-	-	-	-	-	-	-	-	-	-
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	-	-	-	-	-	-	-	-	-	-	-
13. Total net capability (6 + 9 - 12)	21	41	55	55	55	56	58	58	58	58	58
Peak loads:											
14. Firm power peak load within province	14	31	34	29	32	32	32	32	32	32	32
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	14	31	34	29	32	32	32	32	32	32	32
17. Firm power peak load on province (12 + 16)	14	31	34	29	32	32	32	32	32	32	32
Indicated reserve:											
18. Indicated reserve (13 - 16)	7	10	21	26	23	24	26	26	26	26	26

TABLE 1. Capability, Firm Power Peak Load, and Energy Requirements - Concluded

Energy	Actual						Forecast				
	1951	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
millions of kilowatt-hours											
Net generation by:											
19. Hydro-electric .....	..	146	152	174	187	189	...	...	...	...	...
20. Steam - Conventional)				(2	2	2	...	...	...	...	...
21. Nuclear )				( -	-	-	...	...	...	...	...
22. Internal combustion)	..	21	14	(19	24	24	...	...	...	...	...
23. Gas turbine )				( -	-	-	...	...	...	...	...
24. Total net generation .....	..	167	166	195	213	215	...	...	...	...	...
Receipts of energy from:											
(a) Firm:											
25. Other provinces .....	..	..	..	-	-	-	...	...	...	...	...
26. United States .....	..	..	..	-	-	-	...	...	...	...	...
(b) Secondary:											
27. Other provinces .....	..	..	..	-	-	-	...	...	...	...	...
28. United States .....	..	..	..	-	-	-	...	...	...	...	...
29. Total receipts of energy .....	..	..	..	-	-	-	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
30. Other provinces	-	-	-	-	-	-	-	-	-	-	-
31. United States	-	-	-	-	-	-	-	-	-	-	-
(b) Secondary:											
32. Other provinces .....	-	-	-	-	-	-	...	...	...	...	...
33. United States .....	-	-	-	-	-	-	...	...	...	...	...
34. Total deliveries of energy .....	-	-	-	-	-	-	...	...	...	...	...
35. Total energy available (24 + 29 - 34)	..	167	166	195	213	215	...	...	...	...	...
36. Secondary energy delivered within province .....	..	26	28	42	51	50	...	...	...	...	...
37. Firm energy available within province (35 - 36) ..	64	141	138	153	162	165	168	162	163	166	168
38. Indicated shortage	-	-	-	-	-	-	-	-	-	-	-
39. Firm energy requirement within province (37 + 38)	64	141	138	153	162	165	168	162	163	166	168
40. Firm energy requirement on province (30 + 31 + 39)	64	141	138	153	162	165	168	162	163	166	168

TABLE 2. Total Net Generating Capability within Provinces(1)

Province	1951	1959	1960	1961	1962	1963	Forecast					Percentage change (compounded)			
							1964	1965	1966	1967	1968	1951 1963	1959 1963	1963 1968	
thousands of kilowatts															
Newfoundland (including Labrador)	200	267	309	311	409	496	497	502	504	515	515	7.86	16.75	0.75	
Prince Edward Island	18	25	38	37	37	58	58	58	58	78	78	10.24	23.41	6.10	
Nova Scotia	248	493	499	508	521	532	532	627	657	668	683	6.57	1.92	5.13	
New Brunswick	198	373	388	436	480	535	537	570	668	669	837	8.63	9.43	9.36	
Quebec	4,613	7,681	8,764	8,738	8,919	9,376	9,711	10,494	10,941	11,195	11,699	6.09	5.12	4.53	
Ontario	2,824	6,275	6,650	6,858	7,223	7,989	8,268	8,679	9,101	9,623	10,188	9.05	6.22	4.98	
Manitoba	423	734	932	905	1,033	1,033	1,244	1,349	1,350	1,350	1,350	7.72	8.91	5.50	
Saskatchewan	245	671	752	757	752	775	876	875	909	942	1,043	10.07	3.67	6.12	
Alberta	271	768	925	953	1,133	1,200	1,383	1,387	1,611	1,897	1,990	13.20	11.81	10.64	
British Columbia	1,015	2,877	3,028	3,070	3,307	3,428	3,595	3,602	3,695	3,865	4,197	10.67	4.25	4.13	
Yukon and Northwest Territories	21	41	55	55	55	56	58	58	58	58	58	8.52	8.11	0.71	
Canada	10,076	20,205	22,340	22,628	23,869	25,478	26,759	28,201	29,552	30,860	32,638	8.04	5.97	6.39	

(1) Table 1, item 6.

TABLE 3. Firm Power Peak Load within Provinces(1)

Province	1951	1959	1960	1961	1962	1963	Forecast					Percentage change (compounded)			
							1964	1965	1966	1967	1968	1951 1963	1959 1963	1963 1968	
thousands of kilowatts															
Newfoundland (including Labrador)	182	231	245	242	294	349	389	456	466	466	481	5.58	10.87	6.62	
Prince Edward Island	8	19	21	24	25	27	30	33	35	38	40	10.67	9.18	8.17	
Nova Scotia	185	330	356	347	388	411	438	466	488	517	547	6.88	5.63	5.89	
New Brunswick	184	291	319	319	347	401	458	496	539	575	615	6.73	8.34	8.94	
Quebec	3,462	5,466	5,871	6,258	6,370	7,118	7,653	8,102	8,599	9,046	9,546	6.19	7.19	6.05	
Ontario	3,292	6,154	6,391	6,615	6,913	7,412	7,852	8,282	8,770	9,280	9,790	7.00	4.75	5.73	
Manitoba	454	690	772	849	907	955	987	1,031	1,078	1,127	1,177	6.40	8.46	4.26	
Saskatchewan	127	377	418	466	497	531	579	632	684	711	809	7.62	8.93	8.80	
Alberta	220	649	714	836	882	984	1,066	1,154	1,244	1,342	1,445	13.33	11.07	7.91	
British Columbia	861	1,963	2,123	2,368	2,317	2,537	2,780	2,921	3,018	3,204	3,307	9.42	6.62	5.46	
Yukon and Northwest Territories	14	31	34	29	32	32	32	32	32	32	32	7.13	0.79	0.00	
Canada	8,989	16,201	17,264	18,353	18,972	20,757	22,265	23,605	24,953	26,338	27,789	7.24	6.39	6.01	

(1) Table 1, item 14.

TABLE 4. Firm Energy Requirement within Provinces(1)

Province	1951	1959	1960	1961	1962	1963	Forecast					Percentage change (compounded)			
							1964	1965	1966	1967	1968	1951 1963	1959 1963	1963 1968	
millions of kilowatt hours															
Newfoundland (including Labrador)	1,040	1,215	1,320	1,361	1,473	1,878	1,927	2,156	2,206	2,241	2,293	5.05	11.51	4.08	
Prince Edward Island	34	71	79	88	101	111	120	129	138	147	158	10.36	11.81	7.31	
Nova Scotia	1,027	1,626	1,714	1,775	1,965	2,100	2,212	2,345	2,519	2,662	2,769	6.14	6.62	5.70	
New Brunswick	1,002	1,537	1,674	1,782	1,912	2,095	2,308	2,752	3,013	3,269	3,450	6.34	8.05	10.50	
Quebec	23,404	34,035	38,552	39,022	40,389	42,103	44,826	48,310	50,834	53,434	56,123	5.02	5.46	5.92	
Ontario	20,492	34,904	36,382	37,727	39,631	41,529	44,311	46,615	49,397	52,378	55,663	6.06	4.45	6.03	
Manitoba	2,443	3,889	4,201	4,698	5,003	5,445	5,658	5,868	5,611	6,366	6,636	6.91	8.78	4.04	
Saskatchewan	467	1,497	1,666	1,855	2,064	2,327	2,535	2,798	2,941	3,234	3,529	14.32	11.65	8.69	
Alberta	1,114	3,097	3,452	3,808	4,121	4,519	4,933	5,326	5,740	6,188	6,663	12.38	9.90	8.07	
British Columbia	4,741	12,091	13,104	12,807	14,222	14,982	16,536	17,652	18,605	19,603	20,471	10.06	5.50	6.44	
Yukon and Northwest Territories	64	141	138	153	162	165	168	162	163	166	168	8.21	4.00	0.36	
Canada	55,828	94,103	102,282	105,076	111,043	117,254	125,534	134,113	141,667	149,688	157,923	6.38	5.66	6.14	

(1) Table 1, item 39.

TABLE 5. Indicated Reserve(1)

Province	1951	1959	1960	1961	1962	1963	Forecast					Percentage change (compounded)			
							1964	1965	1966	1967	1968	1951 1963	1959 1963	1963 1968	
thousands of kilowatts															
<u>Newfoundland (including Labrador):</u>															
1. Gross capability	200	267	309	311	409	496	497	502	504	515	515	7.86	16.75	0.75	
2. Firm power peak load on province ...	182	238	259	255	307	387	399	466	476	476	491	6.49	12.92	4.88	
3. Indicated reserve (1 - 2)	18	29	50	56	102	109	98	36	28	39	24	...	...	...
4. Indicated reserve expressed as a per cent of firm power peak load	9.9	12.2	19.3	22.0	33.2	28.2	24.6	7.7	5.9	8.2	4.9	...	...	...
<u>Prince Edward Island:</u>															
1. Gross capability	18	25	38	37	37	58	58	58	58	78	78	10.24	23.41	6.10	
2. Firm power peak load on province ...	8	19	21	24	25	27	30	33	35	38	40	10.67	9.18	8.17	
3. Indicated reserve (1 - 2)	10	6	17	13	12	31	28	25	23	40	38	...	...	...
4. Indicated reserve expressed as a per cent of firm power peak load	125.0	31.6	81.0	54.2	48.0	114.8	93.3	75.8	65.7	105.3	95.0	...	...	...
<u>Nova Scotia:</u>															
1. Gross capability	248	493	499	508	521	532	532	627	657	668	683	6.57	1.92	5.13	
2. Firm power peak load on province ...	189	333	359	348	389	412	438	491	488	517	547	6.71	5.46	5.84	
3. Indicated reserve (1 - 2)	59	160	140	160	132	120	94	136	169	151	136	...	...	...
4. Indicated reserve expressed as a per cent of firm power peak load	31.2	48.0	39.0	46.0	33.9	29.1	21.5	27.7	34.6	29.2	24.9	...	...	...
<u>New Brunswick:</u>															
1. Gross capability	200	380	395	442	488	542	544	604	677	679	847	8.66	9.28	9.34	
2. Firm power peak load on province ...	188	300	342	341	375	429	492	535	579	619	663	7.12	9.36	9.09	
3. Indicated reserve (1 - 2)	12	80	53	101	113	113	52	69	98	60	184	...	...	...
4. Indicated reserve expressed as a per cent of firm power peak load	6.4	26.7	15.5	29.6	30.1	26.3	10.6	12.9	16.9	9.7	27.8	...	...	...

(1) Gross capability (Table 1, items 6 + 9); firm power peak load on province (Table 1, item 17); indicated reserve (Table 1, item 18).

TABLE 5.

TABLE 5. Indicated Reserved(1) - Continued

Province	1951	1959	1960	1961	1962	1963	Forecast					Percentage change (compounded)		
							1964	1965	1966	1967	1968	1951 1963	1959 1963	1963 1968
thousands of kilowatts														
<u>Quebec:</u>														
1. Gross capability	4,614	7,690	8,780	8,759	8,936	9,388	9,723	10,506	10,953	11,207	11,711	6.10	5.12	4.51
2. Firm power peak load on province ...	4,253	6,219	6,626	6,992	7,071	7,827	8,365	8,817	9,317	9,767	10,226	5.21	5.93	5.50
3. Indicated reserve (1 - 2)	361	1,471	2,154	1,767	1,865	1,561	1,358	1,689	1,636	1,440	1,485	...	...	...
4. Indicated reserve expressed as a per cent of firm power peak load	8.5	23.7	32.5	25.3	26.4	19.9	16.2	19.2	17.6	14.7	14.5	...	...	...
<u>Ontario:</u>														
1. Gross capability	3,568	6,967	7,344	7,553	7,915	8,688	8,969	9,382	9,808	10,331	10,855	7.70	5.68	4.55
2. Firm power peak load on province ...	3,697	6,242	6,479	6,706	7,004	7,502	7,942	8,329	8,817	9,329	9,839	6.07	4.71	5.58
3. Indicated reserve (1 - 2)	- 129	725	865	847	911	1,186	1,027	1,053	991	1,002	1,016	...	...	...
4. Indicated reserve expressed as a per cent of firm power peak load .....	...	11.6	13.4	12.6	13.0	15.8	12.9	12.6	11.2	10.7	10.3	...	...	...
<u>Manitoba:</u>														
1. Gross capability	500	806	1,018	988	1,120	1,167	1,328	1,433	1,434	1,434	1,434	7.32	9.70	4.21
2. Firm power peak load on province ...	463	690	772	849	907	955	987	1,031	1,078	1,127	1,177	6.22	8.46	4.26
3. Indicated reserve (1 - 2)	37	116	246	139	213	212	341	402	356	307	257	...	...	...
4. Indicated reserve expressed as a per cent of firm power peak load	8.0	16.8	31.9	16.4	23.5	22.2	34.5	39.0	33.0	27.2	21.8	...	...	...
<u>Saskatchewan:</u>														
1. Gross capability	245	672	753	757	752	775	876	875	909	942	1,043	10.07	3.62	6.12
2. Firm power peak load on province ...	204	449	504	554	584	665	663	716	768	795	893	10.35	10.32	6.08
3. Indicated reserve (1 - 2)	41	223	249	203	168	110	213	159	141	147	150	...	...	...
4. Indicated reserve expressed as a per cent of firm power peak load	20.1	49.7	49.4	36.6	28.8	16.5	32.1	22.0	18.4	18.5	16.8	...	...	...

(1) Gross capability (Table 1, items 6 + 9); firm power peak load on province (Table 1, item 17); indicated reserve (Table 1, item 18).

TABLE 5. Indicated Reserve(1) - Concluded

Province	1951	1959	1960	1961	1962	1963	Forecast					Percentage change (compounded)			
							1964	1965	1966	1967	1968	1951 1963	1959 1963	1963 1968	
thousands of kilowatts															
<u>Alberta:</u>															
1. Gross capability	271	771	928	953	1,133	1,200	1,383	1,387	1,611	1,897	1,990	13.20	11.69	10.64	
2. Firm power peak load on province ..	225	650	715	841	886	994	1,078	1,166	1,258	1,355	1,458	13.22	11.31	7.88	
3. Indicated reserve (1 - 2)	46	121	213	112	247	206	305	221	353	542	532	...	...	...
4. Indicated reserve expressed as a per cent of firm power peak load	20.4	18.6	29.8	13.3	27.9	20.2	28.3	19.0	28.1	40.0	36.5	...	...	...
<u>British Columbia:</u>															
1. Gross capability	1,020	2,877	3,028	3,075	3,311	3,438	3,607	3,614	3,708	3,878	4,210	10.66	4.56	4.15	
2. Firm power peak load on province ...	891	1,966	2,126	2,368	2,317	2,537	2,780	2,949	3,088	3,290	3,395	9.11	6.58	6.00	
3. Indicated reserve (1 - 2)	129	911	902	707	994	901	827	665	620	588	815	...	...	...
4. Indicated reserve expressed as a per cent of firm power peak load	14.5	46.3	42.4	29.9	42.9	35.5	29.7	22.6	16.8	17.9	24.0	...	...	...
<u>Yukon and Northwest Territories:</u>															
1. Gross capability	21	41	55	55	55	56	58	58	58	58	58	8.52	8.11	0.71	
2. Firm power peak load on province ...	14	31	34	29	32	32	32	32	32	32	32	7.13	0.79	0.00	
3. Indicated reserve (1 - 2)	7	10	21	26	23	24	26	26	26	26	26	...	...	...
4. Indicated reserve expressed as a per cent of firm power peak load	50.0	32.3	61.8	98.7	71.9	75.0	81.3	81.3	81.3	81.3	81.3	...	...	...
<u>Canada:</u>															
1. Gross capability	10,076 ^F	20,205	22,340	22,630	23,873 ^F	25,480	26,761	28,204	29,555	30,863	32,641	8.04	5.97	5.08	
2. Firm power peak load on Canada	9,485 ^F	16,353	17,430	18,499	19,093	20,907	22,392	23,723	25,114	26,521	27,978	6.81	6.35	6.00	
3. Indicated reserve (1 - 2)	591	3,852	4,910	4,131	4,780 ^F	4,573	4,369	4,481	4,441	4,342	4,663	...	...	...
4. Indicated reserve expressed as a per cent of firm power peak load	6.2	23.5	28.2	22.3	25.0 ^F	21.9	19.5	18.9	17.7	16.4	16.7	...	...	...

(1) Gross capability (Table 1, items 6 + 9); firm power peak load on province (Table 1, item 17); indicated reserve (Table 1, item 18).

^F Revised figures.

GLOSSARY OF TERMS

Firm Energy Requirement

Energy required to meet firm obligations, or for use in own industrial plant other than in electric boilers.

Firm Power

Maximum power always to be available, short of major outages caused by storm, explosion, strikes, etc.

Firm Power Peak Load

The annual Firm Power maximum average net kilowatt load of one hour duration within the Utility, System or Industrial Establishment.

Firm Obligations

Shall include only maximum commitments under contract agreements to accept or deliver power on an irrevocable basis or the best estimate of firm obligations in the absence of contracts.

Indicated Demand

The sum of firm power peak load and indicated shortage.

Indicated Reserve

Net capability less indicated firm power peak load within the province or gross capability less firm power peak load on the province.

Industrial Establishment

A firm which generates power primarily for use in its own plants.

Net Generating Capability

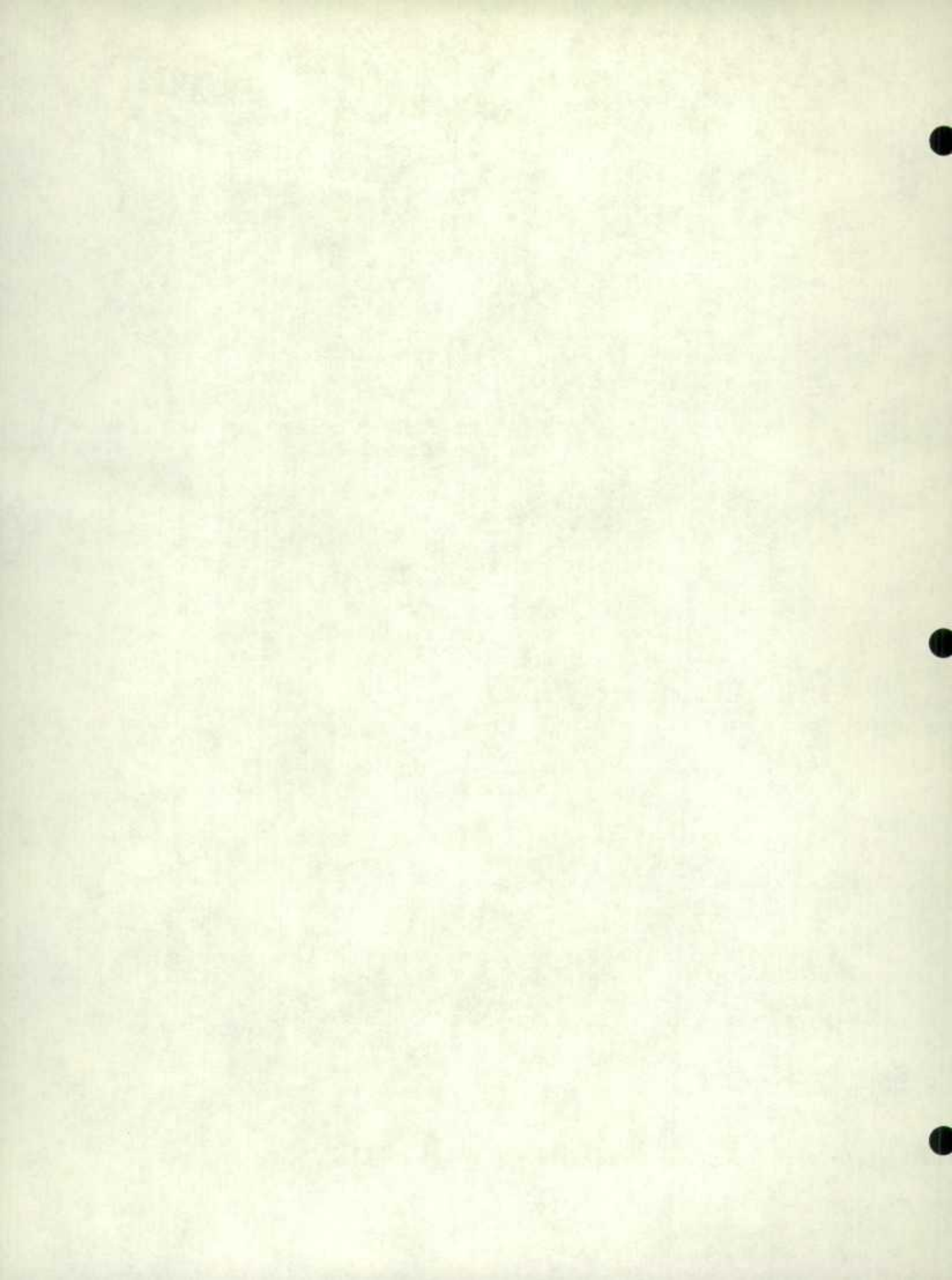
The maximum net kilowatt output (after station service) available from the generating facilities of the Utility, System or Industrial Establishment with all equipment available, at the time of the annual Firm Power Peak Load, determined as the average kilowatt output for one hour with no allowance for outages of generating units.

Net Capability

The sum of net generating capability and purchases of firm power under firm obligation from other utilities less deliveries of firm power under firm obligation to other utilities.

System

Two or more Utilities, Industrial Establishments or a combination of these, having interconnections for the exchange of power, which although they may be separately incorporated, are controlled, managed or operated by one principal.





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