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IND-SB-2-(17) June 22, 1966

ANNUAL ELECTRIC POWER SURVEY OF CAPABILITY AND LOAD

Preliminary Data

Review of Survey Results

Total net generating capability in 1965 for firms which generate over 10 million kwh. per year increased 2,249,000 kw. or 8.6 per cent to 28,274,000 kw. The forecast years 1966-1970 indicate an anticipated growth of 12,170,000 or a compound growth rate of 7.4 per cent as compared with the 1955-1965 growth rate of 7.2 per cent. Thermal capability is expected to grow at an annual rate of 13.5 per cent in the forecast period compared with an actual rate of 13.8 per cent in the previous ten year period, while hydro-electric capability is expected to increase at 5.0 per cent compared with 5.7 per cent in the previous ten years. The hydro electric capability forecast figures do not include the Churchill Falls development in Labrador nor the Nelson River project in Manitoba. Eighty-two per cent of the thermal capability growth will be in conventional steam plants.

The first nuclear capability is forecast for 1967. The nuclear capability does not include the 20,000 kw. plant at Rolphton, Ontario which is an experimental plant and therefore is not considered part of the capability. However, energy generated in this plant has been fed into the system and is included in Table 13.

In 1964 it was forecast that the net generating capability in 1965 would be 28,285,000 kw. The actual 1965 net generating capability fell short of this estimate by only 11,000 kw. All provinces were very close to achieving the capability which was forecast in 1964.

The largest absolute growths in generating capability for the five forecast years are indicated for Ontario, 4,450,000 kw.; Quebec, 3,269,000 kw.; British Columbia, 1,544,000 kw. and New Brunswick, 621,000 kw. Sixty-seven per cent of the increased generating capability in Ontario will be in conventional steam plants, while nuclear capability will be increased to 700,000 kw.

Quebec plans to increase its capability by adding 2,928,000 kw. hydro and 341,000 kw. in conventional thermal capability. British Columbia is forecasting an increase of 1,308,000 kw. in hydro capability and 236,000 kw. in thermal capability while New Brunswick estimates increases of 295,000 kw. and 326,000 kw. in hydro and thermal capability respectively.

In the period from 1955 to 1965 the growth rate of firm power peak load in Canada was 6.9 per cent. This growth rate is expected to increase to 7.6 per cent during the forecast years 1966 to 1970. During the forecast period the indicated reserve is expected to increase from 3,981,000 kw. in 1965 to 5,522,000 kw. in 1970. The indicated reserve stated as a percentage of firm power peak load amounted to 16.4 per cent in 1965 and it is forecast that it will decline slightly to 15.8 per cent in 1970.

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 1965, this reduction in generating capability amounted to about 570,000 kw. with Quebec accounting for 89.5 per cent, Manitoba 3.5 per cent, Ontario 2.8 per cent and Newfoundland and British Columbia each 2.1 per cent.

Firm energy requirements increased 7.6 per cent from 129,339[r] million kwh. in 1964 to 139,195 million kwh. in 1965 compared with a growth rate of 6.5 per cent in the previous ten year period and a forecast growth rate of 6.7 per cent for the period 1966-1970. The additional firm energy requirement was supplied by an increase in net generation of 8,891 million kwh. Net exports declined by 657 million kwh. in 1965 and secondary energy delivered within Canada rose by 306 million kwh.

The Annual Electric Power Survey of Capability and Load conducted in March 1966 covers all producers of electric energy in Canada which generate 10 million kwh. or more per annum. There are approximately 150 responding firms in the group, about half of which are utilities and half industrial establishments. The combined group accounts for 99.5 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. On May 30, 1966, a meeting of the area representatives was held to discuss the final compilation prior to the publication of the report. The assistance received from the Canadian Electrical Association and its members has been invaluable in all phases of the preparation of this report.

Complete details of the survey will be found in the publication "Annual Electric Power Survey of Capability and Load, Catalogue No. 57-204 which will be published in July.

TABLE 1. Capability and Firm Power Peak Load, in Canada

	Actual						Forecast				
	1955	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	thousands of kilowatts										
Capability											
Net generating capability:											
1. Hydro-electric	12,211	18,389	18,651	19,666	19,964	21,214	22,211	22,957	25,277	26,310	27,126
2. Steam - Conventional)		(3,773	4,596	5,194	5,422	6,354	7,013	8,298	8,980	10,689	11,462
3. Nuclear)		(-	-	-	-	-	-	200	200	200	700
)	1,936	(									
4. Internal combustion)		(240	251	236	255	246	252	252	252	252	253
5. Gas turbine)		(351	371	382	384	460	696	830	830	830	903
6. Total net generating capability	14,147	22,753	23,869	25,478	26,025	28,274	30,172	32,537	35,539	38,281	40,444
Receipts of firm power from:											
7. Other provinces	...	...	...	...	...	...	...	...	...	...	...
8. United States	5	2	4	2	2	-	-	-	-	-	-
9. Total receipts	5	2	4	2	2	-	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	...	...	...	...	...	...	...	...	...	...	...
11. United States	166	146	121	122	121[r]	89	91	92	93	95	97
12. Total deliveries	166	146	121	122	121[r]	89	91	92	93	95	97
13. Total net capability (6 + 9 - 12)	13,986	22,609	23,752	25,358	25,906[r]	28,185	30,081	32,445	35,446	38,186	40,347
Peak loads:											
14. Firm power peak load within province	12,472	18,353	18,972	20,755[r]	22,506	24,205	26,924	28,841	30,689	32,944	34,821
15. Indicated shortages	64	-	-	28	13	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	12,536	18,353	18,972	20,783[r]	22,519	24,205	26,924	28,841	30,689	32,944	34,821
17. Firm power peak load on province (12 + 16)	12,702	18,499	19,093	20,905[r]	22,640[r]	24,294	27,015	28,933	30,782	33,039	34,918
Indicated reserve:											
18. Indicated reserve (13 - 16)	1,450	4,256	4,780	4,575[r]	3,387[r]	3,980	3,157	3,604	4,757	5,242	5,526
18a Reduction in generating capability due to adverse conditions	..	..	..	779	687	570	...	...	...	...	...

See footnotes at end of Table 13.

TABLE 2. Capability and Firm Power Peak Load, in Newfoundland

	Actual						Forecast				
	1955	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	207	258	350	444	442	446	447	655	654	729	729
2. Steam - Conventional		40	45	45	45	45	45	40	40	40	40
3. Nuclear		-	-	-	-	-	-	-	-	-	-
	16										
4. Internal combustion		13	14	7	11	11	11	11	7	7	7
5. Gas turbine		-	-	-	-	-	10	10	10	10	10
6. Total net generating capability	223	311	409	496	498	502	513	716	711	786	786
Receipts of firm power from:											
7. Other provinces	-	-	-	-	-	-	-	-	-	-	-
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	-	-	-	-	-	-	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	-	13	13	10	8	7	7	7	7	7	7
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	-	13	13	10	8	7	7	7	7	7	7
13. Total net capability (6 + 9 - 12)	223	298	396	486	490	495	506	709	704	779	779
Peak loads:											
14. Firm power peak load within province	206	242	294	349	376	422	482	528	543	557	569
15. Indicated shortages	1	-	-	28	13	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	207	242	294	377	389	422	482	528	543	557	569
17. Firm power peak load on province (12 + 16)	207	255	307	387	397	429	489	535	550	564	576
Indicated reserve:											
18. Indicated reserve (13 - 16)	16	56	102	109	101	73	24	181	161	222	210
18a. Reduction in generating capability due to adverse conditions	..	..	..	14	12	12	...	...	...	...	...

See footnotes at end of Table 13.

TABLE 3. Capability and Firm Power Peak Load, in Prince Edward Island

	Actual						Forecast				
	1955	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	-	-	-	-	-	-	-	-	-	-	-
2. Steam - Conventional)		(32	32	51	51	51	51	51	71	71	71
3. Nuclear)		(-	-	-	-	-	-	-	-	-	-
)	18	(									
4. Internal combustion)		(5	5	7	7	7	7	7	7	10	10
5. Gas turbine)		(-	-	-	-	-	-	-	-	-	-
6. Total net generating capability	18	37	37	58	58	58	58	58	78	81	81
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	37	37	58	58	58	58	58	78	81	81
Peak loads:											
14. Firm power peak load within provinces	12	24	25	27	31	35	38	42	46	50	55
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	12	24	25	27	31	35	38	42	46	50	55
17. Firm power peak load on province (12 + 16)	12	24	25	27	31	35	38	42	46	50	55
Indicated reserve:											
18. Indicated reserve (13 - 16)	6	13	12	31	27	23	20	16	32	31	26
18a. Reduction in generating capability due to adverse conditions	..	..	..	-	-	-	...	...	...	...	...

See footnotes at end of Table 13.

TABLE 4. Capability and Firm Power Peak Load, in Nova Scotia

	Actual						Forecast				
	1955	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	136	141	141	143	141	141	141	151	162	162	167
2. Steam - Conventional)		(365	378	387	383	482	558	558	558	717	717
3. Nuclear)		(-	-	-	-	-	-	-	-	-	-
)	248	(									
4. Internal combustion)		(2	2	2	3	3	3	3	3	3	3
5. Gas turbine)		(-	-	-	-	-	-	-	-	-	-
6. Total net generating capability	384	508	521	532	527	626	702	712	723	882	887
Receipts of firm power from:											
7. Other provinces	-	-	-	-	-	-	-	-	-	-	-
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	-	-	-	-	-	-	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	2	1	1	1	1	25	-	-	-	-	-
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	2	1	1	1	1	25	-	-	-	-	-
13. Total net capability (6 + 9 - 12)	382	507	520	531	526	601	702	712	723	882	887
Peak loads:											
14. Firm power peak load within province	278	347	388	411	438[r]	457	493	513	547	582	615
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	278	347	388	411	438[r]	457	493	513	547	582	615
17. Firm power peak load on province (12 + 16)	280	348	389	412	439[r]	482	493	513	547	582	615
Indicated reserve:											
18. Indicated reserve (13 - 16)	104	160	132	120	88[r]	144	209	199	176	300	272
18a. Reduction in generating capability due to adverse conditions	..	..	..	-	-	.	...	...	...	...	...

See footnotes at end of Table 13.

TABLE 5. Capability and Firm Power Peak Load, in New Brunswick

	Actual						Forecast				
	1955	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	112	185	233	224	222	260	261	361	553	554	555
2. Steam - Conventional)		(243	240	304	305	310	429	533	533	636	636
3. Nuclear)		(-	-	-	-	-	-	-	-	-	-
)	144	(									
4. Internal combustion)		(8	7	7	7	7	7	7	7	7	7
5. Gas turbine)		(-	-	-	-	-	-	-	-	-	-
6. Total net generating capability	256	436	480	535	534	577	697	901	1,093	1,197	1,198
Receipts of firm power from:											
7. Other provinces	4	6	6	5	9	33	6	7	7	8	8
8. United States	-	-	2	2	2	-	-	-	-	-	-
9. Total receipts	4	6	8	7	11	33	6	7	7	8	8
Deliveries of firm power to:											
10. Other provinces	-	-	-	-	2	-	-	-	-	-	-
11. United States	5	22	28	28	31	37	38	38	38	39	40
12. Total deliveries	5	22	28	28	33	37	38	38	38	39	40
13. Total net capability (6 + 9 - 12)	255	420	460	514	512	573	665	870	1,062	1,166	1,166
Peak loads:											
14. Firm power peak load within province	235	319	347	401	461[r]	528	548	597	637	685	736
15. Indicated shortages	1	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	236	319	347	401	461[r]	528	548	597	637	685	736
17. Firm power peak load on province (12 + 16)	241	341	375	429	494[r]	565	586	635	675	724	776
Indicated reserve:											
18. Indicated reserve (13 - 16)	19	101	113	113	51[r]	45	117	273	425	481	430
18a. Reduction in generating capability due to adverse conditions	..	..	..	-	-	-	...	...	...	...	...

See footnotes at end of Table 13.

TABLE 6. Capability Firm Power Peak Load, in Quebec

	Actual						Forecast				
	1955	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	5,583	8,628	8,830	9,271	9,453	10,208	10,623	10,848	11,919	12,326	13,136
2. Steam - Conventional)		(59	41	59	192	361	362	675	702	702	702
3. Nuclear)		(-	-	-	-	-	-	-	-	-	-
)	36	(									
4. Internal combustion)		(15	12	10	15	13	13	13	13	13	13
5. Gas turbine)		(36	36	36	36	36	36	36	36	36	36
6. Total net generating capability	5,619	8,738	8,919	9,376	9,696	10,618	11,034	11,572	12,670	13,077	13,887
Receipts of firm power from:											
7. Other provinces	1	19	15	12	18	7	7	7	7	7	7
8. United States	5	2	2	-	-	-	-	-	-	-	-
9. Total receipts	6	21	17	12	18	7	7	7	7	7	7
Deliveries of firm power to:											
10. Other provinces	729	696	697	703	717	635	637	645	605	608	278
11. United States	56	38	4	6	-	6	6	6	6	6	6
12. Total deliveries	785	734	701	709	717	641	643	651	611	614	284
13. Total net capability (6 + 9 - 12)	4,840	8,025	8,235	8,679	8,997	9,984	10,398	10,928	12,066	12,470	13,610
Peak loads:											
14. Firm power peak load within province	4,367	6,258	6,370	7,118	7,654	8,228	9,430	10,019	10,740	11,494	12,170
15. Indicated shortages	44	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	4,411	6,258	6,370	7,118	7,654	8,228	9,430	10,019	10,740	11,494	12,170
17. Firm power peak load on province (12 + 16)	5,196	6,992	7,071	7,827	8,371	8,869	10,073	10,670	11,351	12,108	12,454
Indicated reserve:											
18. Indicated reserve (13 - 16)	429	1,767	1,865	1,561	1,343	1,756	1,968	909	1,326	976	1,440
18a. Reduction in generating capability due to adverse conditions	..	..	..	435	474	510	...	...	...	...	...

See footnotes at end of Table 13.

TABLE J. Capability and Firm Power Peak Load, in Ontario

	Actual						Forecast				
	1955	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	3,688	5,292	5,285	5,601	5,603	5,548	5,694	5,859	5,980	6,077	6,077
2. Steam - Conventional)		(1,555	1,926	2,376	2,379	2,885	3,270	3,591	4,221	5,307	5,850
3. Nuclear)		(-	-	-	-	-	-	200	200	200	700
)	800	(									
4. Internal combustion)		(11	12	12	8	7	9	11	11	11	11
5. Gas turbine)		-	-	-	-	74	250	326	326	326	326
6. Total net generating capability	4,488	6,858	7,223	7,989	7,990	8,514	9,223	9,987	10,738	11,921	12,964
Receipts of firm power from:											
7. Other provinces	741	695	692	699	709	627	631	638	598	600	270
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	741	695	692	699	709	627	631	638	598	600	270
Deliveries of firm power to:											
10. Other provinces	1	5	2	2	8	-	-	-	-	-	-
11. United States	85	86	89	88	90[r]	46	47	48	49	50	51
12. Total deliveries	86	91	91	90	98[r]	46	47	48	49	50	51
13. Total net capability (6 + 9 - 12)	5,143	7,462	7,824	8,598	8,601[r]	9,095	9,807	10,577	11,287	12,471	13,183
Peak loads:											
14. Firm power peak load within province	4,757	6,615	6,913	7,410[r]	7,897	8,596	9,183	9,690	10,204	10,929	11,603
15. Indicated shortages	18	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	4,775	6,615	6,913	7,410[r]	7,897	8,596	9,183	9,690	10,204	10,929	11,603
17. Firm power peak load on province (12 + 16)	4,861	6,706	7,004	7,500[r]	7,995[r]	8,642	9,230	9,738	10,253	10,979	11,654
Indicated reserve:											
18. Indicated reserve (13 - 16)	368	847	911	1,188[r]	704[r]	499	624	887	1,083	1,542	1,580
18a. Reduction in generating capability due to adverse conditions	..	..	..	321	192	16	...	...	...	...	...

See footnotes at end of Table 13.

TABLE 8. Capability and Firm Power Peak Load, in Manitoba

	Actual						Forecast				
	1955	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	547	735	735	735	735	1,056	1,061	1,061	1,171	1,171	1,171
2. Steam - Conventional		291	291	291	291	291	291	291	291	361	431
3. Nuclear	46	-	-	-	-	-	-	-	-	-	-
4. Internal combustion		4	7	7	8	9	10	10	10	10	10
5. Gas turbine		-	-	-	-	-	-	28	28	28	56
6. Total net generating capability	593	1,030	1,033	1,033	1,034	1,356	1,362	1,390	1,500	1,570	1,668
Receipts of firm power from:											
7. Other provinces	79	83	87	134	94	83	86	86	86	86	86
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	79	83	87	134	94	83	86	86	86	86	86
Deliveries of firm power to:											
10. Other provinces	14	-	-	-	-	-	-	-	-	-	-
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	14	-	-	-	-	-	-	-	-	-	-
13. Total net capability (6 + 9 - 12)	658	1,113	1,120	1,167	1,128	1,439	1,448	1,476	1,586	1,656	1,754
Peak loads:											
14. Firm power peak load within province	594	849	907	955	1,004	1,023	1,171	1,272	1,361	1,458	1,565
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	594	849	907	955	1,004	1,023	1,171	1,272	1,361	1,458	1,565
17. Firm power peak load on province (12 + 16)	608	849	907	955	1,004	1,023	1,171	1,272	1,361	1,458	1,565
Indicated reserve:											
18. Indicated reserve (13 - 16)	64	264	213	212	124	416	277	204	225	198	189
18a. Reduction in generating capability due to adverse conditions	..	..	..	-	-	20	...	...	...	...	...

See footnotes at end of Table 13.

TABLE 9. Capability and Firm Power Peak Load, in Saskatchewan

	Actual						Forecast				
	1955	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	82	107	107	208	309	309	352	395	501	558	558
2. Steam - Conventional)		(572	575	492	529	535	535	535	535	676	676
3. Nuclear)		(-	-	-	-	-	-	-	-	-	-
)	257	(									
4. Internal combustion)		(35	37	36	35	35	35	33	33	33	33
5. Gas turbine)		(43	33	39	39	41	56	86	86	86	131
6. Total net generating capability	339	757	752	775	912	920	978	1,049	1,155	1,353	1,398
Receipts of firm power from:											
7. Other provinces	-	-	-	-	-	-	-	-	-	-	-
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	-	-	-	-	-	-	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	79	88	87	134	94	83	86	86	86	86	86
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	79	88	87	134	94	83	86	86	86	86	86
13. Total net capability (6 + 9 - 12)	260	669	665	641	818	837	892	963	1,069	1,267	1,312
Peak loads:											
14. Firm power peak load within province	227	466	497	531	619	685	758	832	918	1,098	1,119
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	227	466	497	531	619	685	758	832	918	1,098	1,119
17. Firm power peak load on province (12 + 16)	306	554	584	665	713	768	844	918	1,004	1,184	1,205
Indicated reserve:											
18. Indicated reserve (13 - 16)	33	203	168	110	199	152	134	131	151	169	193
18a. Reduction in generating capability due to adverse conditions	..	..	..	7	-	-	...	...	...	...	...

See footnotes at end of Table 13.

TABLE 10. Capability and Firm Power Peak Load, in Alberta

	Actual						Forecast				
	1955	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	220	327	327	326	326	490	680	680	680	680	680
2. Steam - Conventional)		(498	643	713	748	750	822	1,163	1,163	1,313	1,473
3. Nuclear)		(-	-	-	-	-	-	-	-	-	-
)	238	(									
4. Internal combustion)		(28	33	31	31	24	24	25	25	25	25
5. Gas turbine)		(100	130	130	130	131	156	156	156	156	156
6. Total net generating capability	458	953	1,133	1,200	1,235	1,395	1,682	2,024	2,024	2,174	2,334
Receipts of firm power from:											
7. Other provinces	-	-	-	-	-	-	-	-	-	-	-
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	-	-	-	-	-	-	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	3	5	4	10	12	19	14	16	18	21	25
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	3	5	4	10	12	19	14	16	18	21	25
13. Total net capability (6 + 9 - 12)	455	948	1,129	1,190	1,223	1,376	1,668	2,008	2,006	2,153	2,309
Peak loads:											
14. Firm power peak load within province	391	836	882	984	1,106	1,121	1,297	1,475	1,610	1,774	1,928
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	391	836	882	984	1,106	1,121	1,297	1,475	1,610	1,774	1,928
17. Firm power peak load on province (12 + 16)	394	841	886	994	1,118	1,140	1,311	1,491	1,628	1,795	1,953
Indicated reserve:											
18. Indicated reserve (13 - 16)	64	112	247	206	117	255	371	533	396	379	381
18a. Reduction in generating capability due to adverse conditions	..	..	..	-	-	-	...	...	...	...	...

See footnotes at end of Table 13.

TABLE 11. Capability and Firm Power Peak Load, in British Columbia

	Actual						Forecast				
	1955	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	1,614	2,672	2,599	2,670	2,689	2,692	2,888	2,894	3,604	4,000	4,000
2. Steam - Conventional)		(117	424	475	498	643	649	860	865	865	865
3. Nuclear)		(-	-	-	-	-	-	-	-	-	-
)	133	(									
4. Internal combustion)		(109	112	106	117	115	121	119	122	119	119
5. Gas turbine)		(172	172	177	177	177	187	187	187	187	187
6. Total net generating capability	1,747	3,070	3,307	3,428	3,481	3,627	3,845	4,060	4,778	5,171	5,171
Receipts of firm power from:											
7. Other provinces	3	5	4	10	12	19	14	16	18	21	25
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	3	5	4	10	12	19	14	16	18	21	25
Deliveries of firm power to:											
10. Other provinces	-	-	-	-	-	-	-	-	-	-	-
11. United States	20	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	20	-	-	-	-	-	-	-	-	-	-
13. Total net capability (6 + 9 - 12)	1,730	3,075	3,311	3,438	3,493	3,646	3,859	4,076	4,796	5,192	5,196
Peak loads:											
14. Firm power peak load within province	1,386	2,368	2,317	2,537	2,886	3,058	3,472	3,822	4,031	4,264	4,407
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	1,386	2,368	2,317	2,537	2,886	3,058	3,472	3,822	4,031	4,264	4,407
17. Firm power peak load on province (12 + 16)	1,406	2,368	2,317	2,537	2,886	3,058	3,472	3,822	4,031	4,264	4,407
Indicated reserve:											
18. Indicated reserve (13 - 16)	344	707	994	901	607	588	387	254	765	928	789
18a. Reduction in generating capability due to adverse conditions	..	..	..	2	9	12	...	...	...	...	...

See footnotes at end of Table 13.

TABLE 12. Capability and Firm Power Peak Load in Yukon and Northwest Territories

	Actual						Forecast				
	1955	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	22	44	44	44	44	64	64	53	53	53	53
2. Steam - Conventional)		(1	1	1	1	1	1	1	1	1	1
3. Nuclear)		(-	-	-	-	-	-	-	-	-	-
)	-	(									
4. Internal combustion)		(10	10	11	13	15	12	13	14	14	15
5. Gas turbine)		-	-	-	2	1	1	1	1	1	1
6. Total net generating capability	22	55	55	56	60	81	78	68	69	69	70
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)	22	55	55	56	60	81	78	68	69	69	70
Peak loads:											
14. Firm power peak load within province	19	29	32	32	34	52	52	51	52	53	54
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	19	29	32	32	34	52	52	51	52	53	54
17. Firm power peak load on province (12 + 16)	19	29	32	32	34	52	52	51	52	53	54
Indicated reserve:											
18. Indicated reserve (13 - 16)	3	26	23	24	26	29	26	17	17	16	16
18a. Reduction in generating capability due to adverse conditions	..	..	..	-	-	-	...	...	...	...	...

See footnotes at end of Table 13.

TABLE 13. Energy Requirements in Canada

	Actual						Forecast				
	1955	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
	millions of kilowatt-hours										
Net generation by:											
Hydro-electric	..	103,692	103,695	103,539	113,212	116,738	...	...	...	...	...
Steam - Conventional)		(8,822	12,543	17,111	20,051	25,485	...	...	...	...	...
Nuclear)		(-	22	87	141	120	...	...	...	...	...
)	..	(									
Internal combustion)		(509	514	593	588	509	...	...	...	...	...
Gas turbine		(248	257	312	282	313	...	...	...	...	...
Total net generation	..	113,271	117,031	121,642	134,274	143,165	...	...	...	...	...
Receipts of energy from:											
(a) Firm:											
Other provinces	...	...	...	...	...	...	...	...	...	...	...
United States	..	8	22	12	6	4	3	3	3	3	3
(b) Secondary:											
Other provinces	...	...	...	...	...	...	...	...	...	...	...
United States	..	1,392	2,764	2,867	2,971	3,573	...	...	...	...	...
Total receipts of energy	..	1,400	2,786	2,879	2,977	3,577	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
Other provinces	...	...	...	...	...	...	...	...	...	...	...
United States	1,332	1,122	817	858	826[r]	627	635	648	657	668	675
(b) Secondary:											
Other provinces	...	...	...	...	...	...	...	...	...	...	...
United States	..	3,058	3,267	2,754	3,392[r]	2,937	...	...	...	...	...
Total deliveries of energy	..	4,180	4,084	3,612	4,218	3,564	...	...	...	...	...
Total energy available	..	110,491	115,733	120,909	133,033	143,178	...	...	...	...	...
Secondary energy delivered within Canada	..	5,415	4,690	3,655	3,671	3,977	...	...	...	...	...
Firm energy available within Canada	73,748	105,076	111,043	117,254	129,362	139,201	150,473	161,341	171,439	181,938	192,746
Indicated shortage	378	-	-	-	-	-	-	-	-	-	-
Firm energy requirement within Canada	74,126	105,076	111,043	117,254	129,362	139,201	150,473	161,341	171,439	181,938	192,746
Firm energy requirement on Canada	75,458	106,198	111,860	118,112	130,188[r]	139,828	151,108	161,989	172,096	182,606	193,421

.. Figures not available. ... Figures not appropriate or not applicable - Nil or zero [r] Revised figures.

TABLE 14. Firm Energy Requirement within Provinces

Province	1955	1961	1962	1963	1964	1965	Forecast					Percentage change (compounded)		
							1966	1967	1968	1969	1970	1955 1965	1961 1965	1965 1970
	millions of kilowatt-hours													
Newfoundland (including Labrador)	1,299	1,361	1,473	1,878	2,293	2,640	2,815	3,129	3,260	3,331	3,395	7.35	18.02	5.16
Prince Edward Island	51	88	101	111	124	136	154	173	195	217	243	10.31	11.50	12.31
Nova Scotia	1,340	1,775	1,965	2,100	2,301	2,466	2,636	2,791	2,941	3,116	3,296	6.29	8.57	5.97
New Brunswick	1,248	1,782	1,912	2,095	2,410	2,837	2,969	3,457	3,634	3,859	4,121	8.56	12.33	7.76
Quebec	29,841	39,022	40,389	42,103	47,090	49,279	52,714	55,880	59,440	62,706	66,170	5.15	6.01	6.07
Ontario	26,382	37,727	39,631	41,529	44,814	48,509	52,410	55,409	58,427	62,352	66,375	8.04	6.49	6.47
Manitoba	3,122	4,698	5,003	5,445	5,673	5,995	6,356	6,863	7,314	7,743	8,209	6.74	6.29	6.49
Saskatchewan	877	1,855	2,064	2,327	2,658	3,198	3,564	3,960	4,391	4,872	5,408	13.81	14.59	11.08
Alberta	1,859	3,808	4,121	4,519	4,987	5,499	6,058	7,010	7,686	8,392	9,128	11.46	9.62	10.67
British Columbia	8,011	12,807	14,222	14,982	16,849	18,444	20,568	22,450	23,923	25,115	26,157	8.70	9.55	7.24
Yukon and Northwest Territories	96	153	162	165	163	198	229	219	228	235	244	7.51	6.66	4.27
Canada	74,126	105,076	111,043	117,254	129,362	139,201	150,473	161,341	171,439	181,938	192,746	6.50	7.29	6.72