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IND-SB-2-(~~17~~ 13) June 16, 1967

ANNUAL ELECTRIC POWER SURVEY OF CAPABILITY AND LOAD

Preliminary Data

Review of Survey Results

Total net generating capability in 1966 for firms which generate over 10 million kwh. per year increased 1,097,000 kw. or 3.94 per cent to 28,933,000 kw. The forecast years 1967-71 indicate an anticipated growth of 14,817,000 kw. or a compound growth rate of 8.62 per cent as compared with the 1956-1966 growth rate of 6.80 per cent. Thermal capability is expected to grow at an annual rate of 15.18 per cent in the forecast period compared with an actual rate of 13.31 per cent in the previous ten year period, while hydro-electric capability is expected to increase at 5.91 per cent compared with 5.27 per cent in the previous ten years. The hydro-electric capability forecast figures do not include the Churchill Falls development in Labrador which is not expected to be developed in the forecast period. Eighty per cent of the thermal capability growth will be in fossil-fueled steam plants, sixteen per cent in nuclear fueled steam plants and four per cent in gas turbine 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 1. It is expected that by 1971 nuclear capability will reach 1,200,000 kw. or 2.7 per cent of the total Canadian generating capability.

In 1965 it was forecast that the net generating capability in 1966 would be 29,694,000^{r} kw. The actual net generating capability fell short of this estimate by 761,000 kw. This was caused by the delay of the installation of some units until 1967 and by some units being put into service too late in the year to be considered part of the generating capability at the time of the firm power peak load. The 1966 capability was significantly below the 1965 forecast in Ontario, Alberta and British Columbia.

The largest absolute growths in generating capability for the forecast period are indicated for Ontario, 5,322,000 kw.; Quebec, 3,668,000 kw.; British Columbia, 2,073,000 kw. and Alberta, 1,121,000 kw. Three million six hundred and fourteen thousand kw. of the increased generating capability in Ontario will be in fossil fueled plants, (steam, internal combustion and gas turbine) while nuclear fueled steam plants will account for 1,200,000 kw. of the increase. Quebec plans to increase its capability by adding 3,327,000 kw. hydro and 341,000 kw. in fossil fueled steam plants. British Columbia is forecasting an increase of 1,706,000 kw. in hydro capability and 367,000 kw. in thermal capability, while Alberta estimates increases of 188,000 kw. and 933,000 kw. in hydro and thermal capability respectively.

In the period from 1956 to 1966 the compound growth rate of firm power peak load in Canada was 6.63 per cent. This growth rate is expected to increase to 7.14 per cent during the forecast years 1967 to 1971. During the forecast period the indicated reserve is expected to increase from 2,973,000 kw. in 1966 to 7,004,000 kw. in 1971. The indicated reserve, stated as a percentage of firm power peak load, amounted to 11.4 per cent in 1966 and it is forecast that it will be 19.1 per cent in 1971.

Firm energy requirements increased 9.1 per cent from 139,-049[r] million kwh. in 1965 to 151,653 million kwh. in 1966 compared with a compound growth rate of 6.5 per cent in the previous ten year period and a forecast growth rate of 6.8 per cent for the period 1967-1971. The additional firm energy requirement was supplied by an increase in net generation of 14,020 million kwh. Net exports increased by 740 million kwh. in 1966 and secondary energy delivered within Canada rose by 154 million kwh.

The Annual Electric Power Survey of Capability and Load conducted in March 1967 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 June 6, 1967, a meeting of the co-ordinating panel 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 Electric Power Statistics, Volume 1, Annual Electric Power Survey of Capability and Load, Catalogue No. 57-204 which will be published in August.

TABLE 1. Capability and Firm Power Peak Load in Canada

	Actual						Forecast				
	1956	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	12,841	18,651	19,241r	19,493r	20,779r	21,459	22,539	23,837	26,023	26,882	28,598
2. Steam - Conventional		4,596	5,194	5,422	6,354	6,634	8,573	9,068	10,861	11,702	12,806
3. Nuclear		-	-	-	-	-	200	200	200	700	1,200
	2,142										
4. Internal combustion		251	236	255	243r	257	260	266	267	277	289
5. Gas turbine		371	382	384	460	583	872	851	851	857	857
6. Total net generating capability	14,983	23,869	25,053r	25,554r	27,836r	28,933	32,444	34,222	38,202	40,418	43,750
Receipts of firm power from:											
7. Other provinces	...	...	...	...	...	...	...	...	...	...	...
8. United States	56	4	2	2	-	100	-	-	-	-	-
9. Total receipts	56	4	2	2	-	100	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	...	...	...	...	...	...	...	...	...	...	...
11. United States	147	121	122	127	89	87	88	89	91	93	79
12. Total deliveries	147	121	122	127	89	87	88	89	91	93	79
13. Total net capability (6 + 9 - 12)	14,892	23,752	24,933r	25,429r	27,747r	28,946	32,356	34,133	38,111	40,325	43,671
Peak loads:											
14. Firm power peak load within province	13,668	18,972	20,755	22,503	24,199r	25,973	28,351	30,300	32,146	34,329	36,667
15. Indicated shortages	47	-	28	13	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	13,715	18,972	20,783	22,516	24,199r	25,973	28,351	30,300	32,146	34,329	36,667
17. Firm power peak load on province (12 + 16)	13,862	19,093	20,905	22,643	24,288r	26,060	28,439	30,389	32,237	34,422	36,746
Indicated reserve:											
18. Indicated reserve (13 - 16)	1,177	4,780	4,150r	2,913r	3,548r	2,973	4,005	3,833	5,965	5,996	7,004
18a Reduction in generating capability due to adverse conditions	..	..	354r	216r	130r	101	...	...	...	...	...

See symbols at end of Table 13.

TABLE 2. Capability and Firm Power Peak Load in Newfoundland

	Actual						Forecast				
	1956	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	215	350	444	442	446	454	695	770	815	890	890
2. Steam - Conventional		45	45	45	45	52	52	52	47	47	47
3. Nuclear		-	-	-	-	-	-	-	-	-	-
	27										
4. Internal combustion		14	7	11	11	13	13	13	13	13	13
5. Gas turbine		-	-	-	-	25	40	15	15	15	15
6. Total net generating capability	242	409	496	498	502	544	800	850	890	965	965
Receipts of firm power from:											
7. Other provinces	-	-	-	-	-	-	-	-	-	-	-
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	-	-	-	-	-	-	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	6	13	10	8	7	10	9	9	9	9	9
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	6	13	10	8	7	10	9	9	9	9	9
13. Total net capability (6 + 9 - 12)	236	396	486	490	495	534	791	841	881	956	956
Peak loads:											
14. Firm power peak load within province	222	294	349	376	422	450	587	632	741	755	771
15. Indicated shortages	2	-	28	13	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	224	294	377	389	422	450	587	632	741	755	771
17. Firm power peak load on province (12 + 16)	230	307	387	397	429	460	596	641	750	764	780
Indicated reserve:											
18. Indicated reserve (13 - 16)	12	102	109	101	73	84	204	209	140	201	185
18a Reduction in generating capability due to adverse conditions	..	..	14	12	12	46	...	...	...	...	...

See symbols at end of Table 13.

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

	Actual						Forecast				
	1956	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	-	-	-	-	-	-	-	-	-	-	-
2. Steam - Conventional	18	32	51	51	51	51	51	71	71	71	71
3. Nuclear		-	-	-	-	-	-	-	-	-	-
4. Internal combustion		5	7	7	7	7	7	7	10	10	10
5. Gas turbine		-	-	-	-	-	-	-	-	-	-
6. Total net generating capability	18	37	58	58	58	58	58	78	81	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	58	58	58	58	58	78	81	81	81
Peak loads:											
14. Firm power peak load within province	12	25	27	31	35	37	42	47	52	59	65
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	12	25	27	31	35	37	42	47	52	59	65
17. Firm power peak load on province (12 + 16)	12	25	27	31	35	37	42	47	52	59	65
Indicated reserve:											
18. Indicated reserve (13 - 16)	6	12	31	27	23	21	16	31	29	22	16
18a Reduction in generating capability due to adverse conditions	..	..	-	-	-	-	...	...	...	...	...

See symbols at end of Table 13.

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

	Actual						Forecast				
	1956	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	136	141	143	141	141	141	150	161	161	166	166
2. Steam - Conventional		378	387	383	482	482	518	518	744	744	886
3. Nuclear		-	-	-	-	-	-	-	-	-	-
	242										
4. Internal combustion		2	2	3	3	3	3	3	3	3	3
5. Gas turbine		-	-	-	-	-	-	-	-	-	-
6. Total net generating capability	378	521	532	527	626	626	671	682	908	913	1,055
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	25	-	-	-	-	-	-
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	2	1	1	1	25	-	-	-	-	-	-
13. Total net capability (6 + 9 - 12)	376	520	531	526	601	626	671	682	908	913	1,055
Peak loads:											
14. Firm power peak load within province	301	388	411	438	457	496	539	585	645	682	722
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	301	388	411	438	457	496	539	585	645	682	722
17. Firm power peak load on province (12 + 16)	303	389	412	439	482	496	539	585	645	682	722
Indicated reserve:											
18. Indicated reserve (13 - 16)	75	132	120	88	144	130	132	97	263	231	333
18a Reduction in generating capability due to adverse conditions	..	..	-	-	-	-	...	...	...	...	...

See symbols at end of Table 13.

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

	Actual						Forecast				
	1956	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	112	233	224	222	260	251	357	458	468	478	485
2. Steam - Conventional		240	304	305	310	421	538	538	632	632	632
3. Nuclear		-	-	-	-	-	-	-	-	-	-
	174										
4. Internal combustion		7	7	7	7	7	7	7	7	7	7
5. Gas turbine		-	-	-	-	-	-	-	-	-	-
6. Total net generating capability	286	480	535	534	577	679	902	1,003	1,107	1,117	1,124
Receipts of firm power from:											
7. Other provinces	5	6	5	9	33	8	7	7	8	9	10
8. United States	-	2	2	2	-	-	-	-	-	-	-
9. Total receipts	5	8	7	11	33	8	7	7	8	9	10
Deliveries of firm power to:											
10. Other provinces	-	-	-	2	-	-	-	-	-	-	-
11. United States	5	28	28	31	37	38	38	38	39	40	41
12. Total deliveries	5	28	28	33	37	38	38	38	39	40	41
13. Total net capability (6 + 9 - 12)	286	460	514	512	573	649	871	972	1,076	1,086	1,093
Peak loads:											
14. Firm power peak load within province	243	347	401	461	528	544	554	604	649	708	770
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	243	347	401	461	528	544	554	604	649	708	770
17. Firm power peak load on province (12 + 16)	248	375	429	494	565	582	592	642	688	748	811
Indicated reserve:											
18. Indicated reserve (13 - 16)	43	113	113	51	45	105	317	368	427	378	323
18a Reduction in generating capability due to adverse conditions	..	..	-	-	-	8	...	...	...	...	...

See symbols at end of Table 13.

TABLE 8. Capability and Firm Power Peak Loss in Quebec

	Actual						Forecast				
	1956	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	5,854	8,830	8,846[r]	8,982[r]	9,768[r]	10,141	10,406	10,427	11,864	12,390	13,468
2. Steam - Conventional		41	59	192	361	374	698	698	711	711	711
3. Nuclear		-	-	-	-	-	-	-	-	-	-
	36										
4. Internal combustion		12	10	15	13	15	17	19	19	19	19
5. Gas turbine		36	36	36	36	36	36	36	36	36	36
6. Total net generating capability	5,890	8,919	8,951[r]	9,225[r]	10,178[r]	10,566	11,157	11,180	12,630	13,156	14,234
Receipts of firm power from:											
7. Other provinces	7	15	12	18	7	10	9	9	9	9	9
8. United States	4	2	-	-	-	-	-	-	-	-	-
9. Total receipts	11	17	12	18	7	10	9	9	9	9	9
Deliveries of firm power to:											
10. Other provinces	691	697	703	717	635	633	632	581	582	251	252
11. United States	56	4	6	6	6	2	2	2	2	2	2
12. Total deliveries	747	701	709	723	641	635	634	583	584	253	254
13. Total net capability (6 + 9 - 12)	5,154	8,235	8,254[r]	8,520[r]	9,544[r]	9,941	10,532	10,606	12,055	12,912	13,989
Peak loads:											
14. Firm power peak load within province	4,749	6,370	7,118	7,651	8,228	8,761	9,320	10,028	10,352	11,155	12,004
15. Indicated shortages	44	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	4,793	6,370	7,118	7,651	8,228	8,761	9,320	10,028	10,352	11,155	12,004
17. Firm power peak load on province (12 + 16)	5,540	7,071	7,827	8,374	8,869	9,396	9,954	10,611	10,936	11,408	12,258
Indicated reserve:											
18. Indicated reserve (13 - 16)	361	1,865	1,136[r]	869[r]	1,316[r]	1,180	1,212	578	1,703	1,757	1,985
18a Reduction in generating capability due to adverse conditions	..	..	10[r]	3[r]	70[r]	11	...	...	...	...	...

See symbols at end of Table 13.

TABLE 7. Capability and Firm Power Peak Load in Ontario.

	Actual						Forecast				
	1956	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	3,778	5,285	5,601	5,603	5,548	5,687	5,852	5,968	6,195	6,195	6,195
2. Steam - Conventional		1,926	2,376	2,379	2,885	2,947	3,882	4,197	5,271	5,812	6,349
3. Nuclear		-	-	-	-	-	200	200	200	700	1,200
	787										
4. Internal combustion		12	12	8	7	7	10	10	10	21	26
5. Gas turbine		-	-	-	74	149	342	342	342	342	342
6. Total net generating capability	4,565	7,223	7,989	7,990	8,514	8,790	10,286	10,717	12,018	13,070	14,112
Receipts of firm power from:											
7. Other provinces	702	692	699	709	627	625	625	574	574	242	242
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	702	692	699	709	627	625	625	574	574	242	242
Deliveries of firm power to:											
10. Other provinces	1	2	2	8	-	-	-	-	-	-	-
11. United States	86	89	88	90	46	47	48	49	50	51	36
12. Total deliveries	87	91	90	98	46	47	48	49	50	51	36
13. Total net capability (6 + 9 - 12)	5,180	7,824	8,598	8,601	9,095	9,368	10,863	11,242	12,542	13,261	14,318
Peak loads:											
14. Firm power peak load within province	5,064	6,913	7,410	7,897	8,596	9,157	9,728	10,220	10,929	11,611	12,354
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	5,064	6,913	7,410	7,897	8,596	9,157	9,728	10,220	10,929	11,611	12,354
17. Firm power peak load on province (12 + 16)	5,151	7,004	7,500	7,995	8,642	9,204	9,776	10,269	10,979	11,662	12,390
Indicated reserve:											
18. Indicated reserve (13 - 16)	116	911	1,188	704	499	211	1,135	1,022	1,613	1,650	1,964
18a Reduction in generating capability due to adverse conditions	..	..	321	192	16	15	...	...	...	...	...

See symbols at end of Table 13.

TABLE 8. Capability and Firm Power Peak Load in Manitoba

	Actual						Forecast				
	1956	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	556	735	735	735	1,061	1,061	1,061	1,171	1,205	1,205	1,611
2. Steam - Conventional		291	291	291	291	291	291	291	389	389	389
3. Nuclear		-	-	-	-	-	-	-	-	-	-
	46										
4. Internal combustion		7	7	8	9	11	12	12	12	16	16
5. Gas turbine		-	-	-	-	-	24	24	24	24	24
6. Total net generating capability	602	1,033	1,033	1,034	1,361	1,363	1,388	1,498	1,630	1,634	2,040
Receipts of firm power from:											
7. Other provinces	64	87	134	94	83	84	86	86	136	186	86
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	64	87	134	94	83	84	86	86	136	186	86
Deliveries of firm power to:											
10. Other provinces	14	-	-	-	1	1	41	1	1	1	1
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	14	-	-	-	1	1	41	1	1	1	1
13. Total net capability (6 + 9 - 12)	652	1,120	1,167	1,128	1,443	1,446	1,433	1,583	1,765	1,819	2,125
Peak loads:											
14. Firm power peak load within province	605	907	955	1,004	1,022	1,083	1,297	1,417	1,521	1,624	1,733
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	605	907	955	1,004	1,022	1,083	1,297	1,417	1,521	1,624	1,733
17. Firm power peak load on province (12 + 16)	619	907	955	1,004	1,023	1,084	1,338	1,418	1,522	1,625	1,734
Indicated reserve:											
18. Indicated reserve (13 - 16)	47	213	212	124	421	363	136	166	244	195	392
18a Reduction in generating capability due to adverse conditions	..	..	-	-	20	5	...	...	...	...	...

See symbols at end of Table 13.

TABLE 9. Capability and Firm Power Peak Load in Saskatchewan

	Actual						Forecast				
	1956	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	82	107	208	309	309	392	392	560	560	560	560
2. Steam - Conventional		575	492	529	535	531	531	531	671	811	951
3. Nuclear		-	-	-	-	-	-	-	-	-	-
	320										
4. Internal combustion		37	36	35	35	33	33	33	33	33	33
5. Gas turbine		33	39	39	41	40	85	85	85	85	85
6. Total net generating capability	402	752	775	912	920	996	1,041	1,209	1,349	1,489	1,629
Receipts of firm power from:											
7. Other provinces	-	-	-	-	1	1	41	1	1	1	1
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	-	-	-	-	1	1	41	1	1	1	1
Deliveries of firm power to:											
10. Other provinces	64	87	134	94	83	84	86	86	136	186	86
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	64	87	134	94	83	84	86	86	136	186	86
13. Total net capability (6 + 9 - 12)	338	665	641	818	838	913	996	1,124	1,214	1,304	1,544
Peak loads:											
14. Firm power peak load within province	278	497	531	619	685	761	865	969	1,081	1,198	1,331
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	278	497	531	619	685	761	865	969	1,081	1,198	1,331
17. Firm power peak load on province (12 + 16)	342	584	665	713	768	845	951	1,055	1,217	1,384	1,417
Indicated reserve:											
18. Indicated reserve (13 - 16)	60	168	110	199	153	152	131	155	133	106	213
18a Reduction in generating capability due to adverse conditions	..	..	7	-	-	-	...	...	...	...	...

See symbols at end of Table 13.

TABLE 10. Capability and Firm Power Peak Load in Alberta

	Actual						Forecast				
	1956	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	220	327	326	326	490	490	678	678	678	678	678
2. Steam - Conventional		643	713	748	750	820	1,158	1,158	1,308	1,468	1,753
3. Nuclear		-	-	-	-	-	-	-	-	-	-
	338										
4. Internal combustion		33	31	31	24	26	26	26	26	26	26
5. Gas turbine		130	130	130	131	155	155	155	155	155	155
6. Total net generating capability	558	1,133	1,200	1,235	1,395	1,491	2,017	2,017	2,167	2,327	2,612
Receipts of firm power from:											
7. Other provinces	4	-	-	-	-	-	-	-	-	-	-
8. United States	-	-	-	-	-	-	-	-	-	-	-
9. Total receipts	4	-	-	-	-	-	-	-	-	-	-
Deliveries of firm power to:											
10. Other provinces	-	4	10	12	19	19	19	18	18	17	17
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	-	4	10	12	19	19	19	18	18	17	17
13. Total net capability (6 + 9 - 12)	562	1,129	1,190	1,223	1,376	1,472	1,998	1,999	2,149	2,310	2,595
Peak loads:											
14. Firm power peak load within province	451	882	984	1,106	1,121	1,219	1,482	1,610	1,784	1,943	2,114
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	451	882	984	1,106	1,121	1,219	1,482	1,610	1,784	1,943	2,114
17. Firm power peak load on province (12 + 16)	451	886	994	1,118	1,140	1,238	1,501	1,628	1,802	1,960	2,131
Indicated reserve:											
18. Indicated reserve (13 - 16)	111	247	206	117	255	253	516	389	365	367	481
18a Reduction in generating capability due to adverse conditions	..	..	-	-	-	-	...	...	...	...	...

See symbols at end of Table 13.

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

	Actual						Forecast				
	1956	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	1,866	2,599	2,670	2,689	2,692	2,779	2,885	3,592	4,017	4,260	4,485
2. Steam - Conventional		424	475	498	643	664	853	1,013	1,016	1,016	1,016
3. Nuclear		-	-	-	-	-	-	-	-	-	-
	153										
4. Internal combustion		112	106	117	115	121	118	121	119	113	120
5. Gas turbine		172	177	177	177	177	189	193	193	193	193
6. Total net generating capability	2,019	3,307	3,428	3,481	3,627	3,741	4,045	4,919	5,345	5,582	5,814
Receipts of firm power from:											
7. Other provinces	-	4	10	12	19	19	19	18	18	17	17
8. United States	52	-	-	-	-	100	-	-	-	-	-
9. Total receipts	52	4	10	12	19	119	19	18	18	17	17
Deliveries of firm power to:											
10. Other provinces	4	-	-	-	-	-	-	-	-	-	-
11. United States	-	-	-	-	-	-	-	-	-	-	-
12. Total deliveries	4	-	-	-	-	-	-	-	-	-	-
13. Total net capability (6 + 9 - 12)	2,067	3,311	3,438	3,493	3,646	3,860	4,064	4,937	5,363	5,599	5,831
Peak loads:											
14. Firm power peak load within province	1,724	2,317	2,537	2,886	3,058	3,421	3,887	4,139	4,337	4,537	4,744
15. Indicated shortages	1	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	1,725	2,317	2,537	2,886	3,058	3,421	3,887	4,139	4,337	4,537	4,744
17. Firm power peak load on province (12 + 16)	1,729	2,317	2,537	2,886	3,058	3,421	3,887	4,139	4,337	4,537	4,744
Indicated reserve:											
18. Indicated reserve (13 - 16)	342	994	901	607	588	439	177	798	1,026	1,062	1,087
18a Reduction in generating capability due to adverse conditions	..	..	2	9	12	16	...	...	...	...	...

See symbols at end of Table 13.

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

	Actual						Forecast				
	1956	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
	thousands of kilowatts										
Capability:											
Net generating capability:											
1. Hydro-electric	22	44	44	44	64	63	63	52	60	60	60
2. Steam - Conventional		1	1	1	1	1	1	1	1	1	1
3. Nuclear		-	-	-	-	-	-	-	-	-	-
	1										
4. Internal combustion		10	11	13	12r	14	14	15	15	16	16
5. Gas turbine		-	-	2	1	1	1	1	1	7	7
6. Total net generating capability	23	55	56	60	78r	79	79	69	77	84	84
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)	23	55	56	60	78r	79	79	69	77	84	84
Peak loads:											
14. Firm power peak load within province	19	32	32	34	47r	44	50	49	55	57	59
15. Indicated shortages	-	-	-	-	-	-	-	-	-	-	-
16. Total indicated firm power peak load within province (14 + 15)	19	32	32	34	47r	44	50	49	55	57	59
17. Firm power peak load on province (12 + 16)	19	32	32	34	47r	44	50	49	55	57	59
Indicated reserve:											
18. Indicated reserve (13 - 16)	4	23	24	26	31r	35	29	20	22	27	25
18a Reduction in generating capability due to adverse conditions	..	..	-	-	-	-	...	...	...	...	...

See symbols at end of Table 13.

TABLE 13. Energy Requirements in Canada

	Actual						Forecast				
	1956	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
	millions of kilowatt-hours										
Net generation by:											
Hydro-electric	..	103,695	103,539	113,212	116,692	129,444	...	...	...	...	...
Steam - Conventional		12,543	17,111	20,051	25,485	26,521	...	...	...	...	...
Nuclear		22	87	141	120	161	...	...	...	...	...
	..										
Internal combustion		514	593	574	504[r]	632	...	...	...	...	...
Gas turbine		257	312	282	313	376	...	...	...	...	...
Total net generation	87,427	117,031	121,642	134,260	143,114[r]	157,134	...	...	...	...	...
Receipts of energy from:											
Other provinces	...	...	...	...	...	...	...	...	...	...	...
United States:											
(a) Firm	..	22	12	6	4	133	2	2	2	2	2
(b) Secondary	..	2,764	2,867	2,971	3,573	2,922	...	...	...	...	...
Total receipts of energy	227	2,786	2,879	2,977	3,577	3,055	...	...	...	...	...
Deliveries of energy to:											
(a) Firm:											
Other provinces	...	...	...	...	...	...	...	...	...	...	...
United States	1,226	817	867	835	633	613	655	667	679	691	577
(b) Secondary:											
Other provinces	...	...	...	...	...	...	...	...	...	...	...
United States	3,885	3,267	2,754	3,392	2,937	3,697	...	...	...	...	...
Total deliveries of energy	5,111	4,084	3,621	4,227	3,570	4,310	...	...	...	...	...
Total energy available	82,543	115,733	120,900	133,010	143,121[r]	155,879	...	...	...	...	...
Secondary energy delivered within Canada	3,000	4,690	3,655	3,671	4,072[r]	4,226	...	...	...	...	...
Firm energy available within Canada	79,543	111,043	117,245	129,339	139,049[r]	151,653	162,510	174,410	187,511	199,340	210,393
Indicated shortage	1,546	-	-	-	-	-	-	-	-	-	-
Firm energy requirement within Canada	81,089	111,043	117,245	129,339	139,049[r]	151,653	162,510	174,410	187,511	199,340	210,393
Firm energy requirement on Canada	82,315	111,860	118,112	130,174	139,682[r]	152,266	163,165	175,077	188,190	200,031	210,970

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

TABLE 14. Firm Energy Requirement within Provinces

Province	1956	1962	1963	1964	1965	1966	Forecast 1967	Forecast 1968	Forecast 1969	Forecast 1970	Forecast 1971	Percentage change (compounded) 1956 1966	Percentage change (compounded) 1962 1966	Percentage change (compounded) 1966 1971
	millions of kilowatt-hours													
Newfoundland (including Labrador)	1,226	1,473	1,878	2,293	2,640	2,790	3,157	3,391	4,653	4,731	4,740	8.56	17.31	11.22
Prince Edward Island	53	101	111	124	136	140	173	193	217	242	270	10.20	8.51	14.04
Nova Scotia	1,457	1,965	2,100	2,301	2,466	2,648	2,883	3,149	3,441	3,805	4,035	6.16	7.74	8.79
New Brunswick	1,236	1,912	2,095	2,410	2,742[r]	3,042	3,479	3,721	3,928	4,225	4,547	9.42	12.31	8.37
Quebec	31,788	40,389	42,094	47,081	49,227	53,365	55,580	59,903	63,927	67,620	70,805	5.32	7.21	5.82
Ontario	29,069	39,631	41,529	44,814	48,509	53,095	55,548	58,617	62,638	66,887	71,098	6.21	7.59	6.01
Manitoba	3,258	5,003	5,445	5,659	5,988	6,215	7,035	7,907	8,494	9,022	9,537	6.67	5.57	8.94
Saskatchewan	1,015	2,064	2,327	2,658	3,205	3,596	4,100	4,697	5,311	5,913	6,650	13.48	14.89	13.08
Alberta	2,105	4,121	4,519	4,987	5,499	6,068	6,995	7,628	8,405	9,176	10,026	11.17	10.16	10.57
British Columbia	9,777	14,222	14,982	16,849	18,444	20,455	23,305	24,955	26,210	27,424	28,386	7.66	9.51	6.77
Yukon and Northwest Territories	105	162	165	163	193[r]	239	255	249	287	295	299	8.57	10.21	4.58
Canada	81,089	111,043	117,245	129,339	139,049[r]	151,653	162,510	174,410	187,511	199,340	210,393	6.46	8.10	6.77