



CATALOGUE No. 57-002

June 12, 1968.

Vol. 3 No. 22

REVIEW
11.30 AM JUNE 12

1967 Capability and Load SurveyReview of Survey Results

Total net generating capability in 1967 for firms which generate over 10 million Kwh. per year increased 2,437,000 Kw. or 8.42 per cent to 31,370,000 Kw. The forecast years 1967-72 indicate an anticipated growth of 16,780,000 Kw. to 48,150,000 Kw., a compound growth rate of 8.95 per cent as compared with the 1957-1967 growth rate of 6.66 per cent. Thermal capability is expected to grow at an annual rate of 13.49 per cent in the forecast period compared with an actual rate of 14.46 per cent in the previous ten year period, while hydro-electric capability is expected to increase at 6.89 per cent compared with 4.73 per cent in the previous ten years. Seventy-eight per cent of the thermal capability growth will be in fossil-fuelled steam plants, nineteen per cent in nuclear-fuelled steam plants and three per cent in gas turbine plants.

The first nuclear capability was put into service in 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 1972 the nuclear capability will reach 1,700,000 Kw. or 3.53 per cent of the total Canadian generating capability.

In the previous forecasts it was estimated that the net generating capability in 1967 would be 32,444,000 Kw. The actual net generating capability fell short of this estimate by 1,074,000 Kw. This was caused by the delay of the installation of some units until 1968 and by some units being put into service too late to be considered part of the generating capability at the time of the firm power peak load. The 1967 capability was significantly below the previous forecast for New Brunswick, and Ontario.

The largest absolute growths in generating capability for the forecast period are indicated for: Ontario 6,283,000 Kw.; Quebec 3,275,000 Kw.; Newfoundland 2,056,000 Kw. and British Columbia 1,973,000 Kw. Of the increased generating capability in Ontario 3,779,000 Kw. will be in fossil-fuelled plants, (steam, internal combustion and gas turbine) while nuclear-fuelled steam plants will account for 1,533,000 Kw. of the increase. Quebec plans to increase its capability by adding 3,090,000 Kw. hydro and 180,000 Kw. in fossil-fuelled steam plants. The Newfoundland forecast is for an increase of 1,652,000 Kw. in hydro capability and 404,000 Kw. in thermal capability, while British Columbia estimates are for increases of 1,790,000 Kw. and 183,000 Kw. in hydro and thermal capability respectively.

In the period from 1957 to 1967 the compound growth rate of firm power peak load in Canada was 6.66 per cent. This growth rate is expected to increase to 7.02 per cent during the period 1967 to 1972. During the forecast period the indicated reserve is expected to increase from 3,507,000 Kw. in 1967 to 8,826,000 Kw. in 1972. The indicated reserve, stated as a percentage of firm power peak load, amounted to 12.5 per cent in 1967 and it is forecast that it will be 22.4 per cent in 1972.

Firm energy requirements increased 7.24 per cent from 151,653 million Kwh. in 1966 to 162,629 million Kwh. in 1967 compared with a compound growth rate of 6.79 per cent in the previous ten year period and a forecast growth rate of 7.15 per cent for the period 1967-1972. The additional firm energy requirement in 1967 was supplied by an increase in net generation of 7,630 million Kwh. a decrease in net exports of 1,529 million Kwh. and a decrease of 1,817 million Kwh. secondary energy delivered within Canada.

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1957-1958

TABLE 1. Total Net Generating Capability within Provinces

Province	1957	1963	1964	1965	1966	1967	Forecast					Percentage change (compounded)		
							1968	1969	1970	1971	1972	1957 1967	1963 1967	1967 1972
thousands of kilowatts														
Newfoundland (including Labrador)	249	496	498	502	544	765	901	966	1,266	1,441	2,821	11.88	11.44	29.82
Prince Edward Island	25	58	58	58	58	58	78	81	81	81	101	8.78	-	11.73
Nova Scotia	415	532	527	626	626	694	705	936	936	936	1,086	5.28	6.87	9.37
New Brunswick	321	535	534	577	679	793	1,104	1,208	1,209	1,210	1,211	9.47	10.34	8.84
Quebec	6,461	8,951	9,225	10,178	10,566	10,957	11,161	12,604	12,981	13,710	14,232	5.42	5.19	5.37
Ontario	4,932	7,989	7,990	8,514	8,790	9,515	10,477	11,910	13,162	14,509	15,798	6.79	4.47	10.67
Manitoba	639	1,033	1,034	1,361	1,363	1,373	1,498	1,631	1,627	2,031	2,334	7.95	7.37	11.19
Saskatchewan	463	775	912	920	996	1,011	1,206	1,349	1,489	1,589	1,729	8.12	6.87	11.33
Alberta	588	1,200	1,235	1,395	1,491	2,015	2,009	2,150	2,310	2,625	2,644	13.10	13.84	5.58
British Columbia	2,350	3,428	3,481	3,627	3,741	4,121	5,033	5,441	5,687	5,867	6,094	5.78	4.71	8.14
Yukon	15	27	27	32	32	21	31	40	41	41	42	3.42	- 6.49	14.87
Northwest Territories	11	29	33	46	47	47	47	52	58	56	58	15.63	12.83	4.29
Canada	16,469	25,053	25,554	27,836	28,933	31,370	34,250	38,368	40,847	44,098	48,150	6.66	5.80	8.95

TABLE 2. Firm Power Peak Load within Provinces

Province	1957	1963	1964	1965	1966	1967	Forecast					Percentage change (compounded)		
							1968	1969	1970	1971	1972	1957 1967	1963 1967	1967 1972
thousands of kilowatts														
Newfoundland (including Labrador)	222	349	376	422	450	571	653	868	1,201	1,386	1,580	9.90	13.10	22.57
Prince Edward Island	14	27	31	35	37	40	44	47	51	56	60	11.07	10.33	8.45
Nova Scotia	322	411	438	457	496	604	631	723	780	843	912	6.49	10.10	8.59
New Brunswick	258	401	461	528	544	551	612	657	704	742	804	7.88	8.27	7.85
Quebec	5,256	7,118	7,651	8,228	8,761	9,142	9,702	10,302	10,775	11,428	11,872	5.69	6.46	5.36
Ontario	5,369	7,410	7,897	8,596	9,157	9,930	10,544	11,191	11,912	12,712	13,556	6.34	7.59	6.42
Manitoba	608	955	1,004	1,022	1,083	1,246	1,354	1,476	1,569	1,663	1,763	7.44	6.88	7.19
Saskatchewan	299	531	619	685	761	833	970	1,083	1,201	1,335	1,470	10.79	11.92	12.03
Alberta	476	984	1,106	1,121	1,219	1,340	1,509	1,675	1,817	1,962	2,190	10.95	8.03	10.32
British Columbia	1,821	2,537	2,886	3,058	3,421	3,647	4,027	4,315	4,520	4,721	4,956	7.19	9.50	6.33
Yukon	12	14	15	16	17	14	16	26	27	28	30	1.55	-	16.47
Northwest Territories	7	18	19	31	27	30	30	35	38	41	44	15.66	13.62	7.96
Canada	14,664	20,755	22,503	24,199	25,973	27,948	30,092	32,398	34,595	36,917	39,237	6.66	7.72	7.02

TABLE 3. Firm Energy Requirement within Provinces

Province	1957	1963	1964	1965	1966	1967	Forecast					Percentage change (compounded)		
							1968	1969	1970	1971	1972	1957 1967	1963 1967	1967 1972
millions of kilowatt-hours														
Newfoundland (including Labrador)	1,190	1,878	2,293	2,640	2,790	3,009	3,626	4,978	6,879	8,395	9,794	9.72	12.51	26.65
Prince Edward Island	57	111	124	136	140	161	180	205	231	273	311	10.94	9.74	14.07
Nova Scotia	1,471	2,100	2,301	2,466	2,648	2,830	3,138	3,541	4,015	4,334	4,632	6.76	7.74	10.36
New Brunswick	1,347	2,095	2,410	2,742	3,042	3,294	3,479	3,682	3,899	4,102	4,326	9.35	11.98	5.60
Quebec	31,376	42,094	47,081	49,227	53,365	56,850	60,312	64,171	67,171	71,729	75,008	6.12	7.80	5.70
Ontario	30,960	41,529	44,814	48,509	53,095	56,798	60,440	63,748	67,866	72,375	77,608	6.26	8.14	6.44
Manitoba	3,347	5,445	5,659	5,988	6,215	6,563	7,195	7,931	8,530	9,037	9,482	6.97	4.78	7.64
Saskatchewan	1,126	2,327	2,658	3,205	3,596	3,937	4,489	5,315	5,927	6,675	7,373	13.33	14.05	13.37
Alberta	2,358	4,519	4,987	5,499	6,068	6,713	7,624	8,476	9,302	10,247	11,241	11.03	10.40	10.86
British Columbia	10,975	14,982	16,849	18,444	20,455	22,228	24,333	25,798	26,950	28,201	29,512	7.31	10.36	5.83
Yukon	45	64	65	82	83	83	92	115	161	165	168	6.31	6.71	15.15
Northwest Territories	69	101	98	111	156	163	170	196	210	223	236	8.98	12.71	7.68
Canada	84,321	117,245	129,339	139,049	151,653	162,629	175,078	188,156	201,141	215,756	229,691	6.79	8.52	7.15

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