

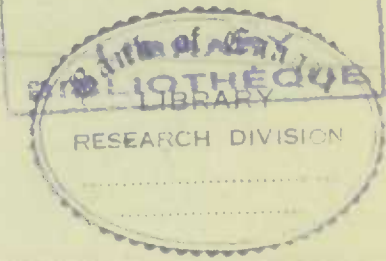
57-D-52
copy with 57-001

STATISTICS STATISTIQUE
CANADA CANADA

NOV 4 2008

C. 2 Published by Authority of the HON. R.B. HANSON, K.C., M.P.,
Minister of Trade and Commerce

DOMINION BUREAU OF STATISTICS
TRANSPORTATION AND PUBLIC UTILITIES BRANCH
OTTAWA



Dominion Statistician, R.H. Coats, LL.D., F.R.S.C., F.S.S.(Hon.).
Chief, Transportation and Public Utilities Branch, G.S. Wrong, B.Sc.

PRODUCTION OF CENTRAL ELECTRIC STATIONS IN QUEBEC AND ONTARIO

The following tables show the production, exports, deliveries to electric boilers, and interprovincial movements of electric energy by central electric stations in Quebec and Ontario. The annual data are taken from annual reports of all stations in these provinces and the monthly data are taken from monthly reports of stations having outputs of one million or more kilowatt hours per annum. The output of these large stations is about 99 per cent of the total of all stations and consequently the monthly fluctuations are representative of all stations. To put the monthly data on an annual basis some slight adjustments are necessary, chiefly because annual reports are not all on the calendar year basis.

The charts show the trends in each province for the 16 years, 1919-1934, of the production and of the production less deliveries to electric boilers of secondary power and, in Ontario, less also the exports to the United States of secondary power. This second curve might be called the consumption of firm power. The ratios in per cents of the annual data to the total capacities of the stations are shown for each year. The capacities are based on the manufacturers' ratings of the generators in the stations in each province. The capacities of Quebec stations supplying power to Ontario are not included in the Ontario computations. The production of secondary power in Quebec considerably increased these ratios, but even with this market for the off-peak power, the highest ratio was only 57.7 in 1924 and 55.3 in 1928. It is quite probable, however, that for some month, week, day, hour or minute the generators as a whole were required to produce a much higher percentage of their possible output; for November, 1928, the ratio was 60 per cent. To illustrate this point there is reproduced on page 10 graphs of loads compiled by the Nova Scotia Power Commission, showing typical daily load curves. The ratios on these graphs are the daily load factors or the ratio of the average demand to the peak or maximum demand. The ratio of the average demand to the generating capacity would be considerably lower because a margin of capacity over the peak demand must be maintained for probable higher peaks with future growth.

The ratios on the curves shown on pages 8 and 9 indicate only in a rough way, and for the province as a whole and not for individual plants or systems, how the margin of safety is reduced when the installation of equipment does not keep pace with the growing loads. The margin of safety increases in periods of decreasing loads because practically no plants cease to operate or no equipment is removed from service.

CENTRAL ELECTRIC STATIONS

QUEBEC

(Thousands of Kilowatt Hours)

	1919	1920	1921	1922	1923	1924		1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
Production	1,923,560	1,914,698	1,790,805	2,539,874	2,816,397	3,714,805		4,044,502	4,916,438	6,523,605	7,682,425	8,664,334	8,822,901	8,066,026	8,491,128	9,611,084	11,356,194
Boiler consumption .....	...	...	...	...	...	256,609		474,522	917,195	1,642,236	1,730,976	2,072,295	1,991,400	1,781,311	2,542,348	2,854,406	3,900,737
Production less boilers	1,923,560	1,914,698	1,790,805	2,539,874	2,816,397	3,458,196		3,569,980	3,999,243	4,881,369	5,951,449	6,592,039	6,831,501	6,284,715	5,948,780	6,756,678	7,455,457
Exports to Ontario and New Brunswick	35,236	44,974	53,000	66,293	78,864	92,321		168,234	193,267	241,727	301,531	710,198	964,574	1,217,918	1,302,786	1,770,183	2,160,921
Exports to the United States	282,499	364,713	324,445	357,007	405,566	425,980		357,178	357,835	412,614	416,113	431,867	476,768	389,537	180,499	334,512	317,720
(Boiler consumption Production less (Exports to United States .. (Exports to Other Provinces	1,605,825	1,505,011	1,413,360	2,116,574	2,331,967	2,939,895		3,044,568	3,448,141	4,227,028	5,233,805	5,449,974	5,390,159	4,677,260	4,465,495	4,651,983	4,976,816

CENTRAL ELECTRIC STATIONS

QUEBEC

(Thousands of Kilowatt Hours)

	1919	1920	1921	1922	1923	1924		1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
Production	2,802,886	3,057,124	2,808,246	3,151,460	4,121,733	4,289,029		4,518,844	5,321,756	5,792,820	6,064,031	6,453,510	6,160,987	4,948,819	4,258,042	4,381,094	x6,074,814
Imports from Quebec	35,236	44,974	53,000	66,293	78,864	92,321		165,534	190,567	239,186	298,980	707,318	960,678	1,212,745	1,297,565	1,764,993	2,155,463
Production plus imports	2,838,122	3,102,098	2,861,246	3,217,753	4,200,597	4,381,350		4,684,378	5,512,323	6,032,006	6,363,011	7,160,828	7,121,665	6,161,564	5,555,607	6,146,087	8,230,277
Production plus imports less exports of surplus and deliveries to electric boilers	2,838,122	3,102,098	2,861,246	3,217,753	4,200,597	4,381,350		4,684,378	5,512,323	5,583,841	5,925,660	6,863,632	6,719,347	5,990,781	5,494,112	5,548,326	x7,063,048
Exports-																	
Firm				NOT DIVIDED						809,362	767,143	694,878	720,265	653,087	466,770	553,663	694,968
Surplus				NOT DIVIDED						448,164	437,351	297,196	402,318	170,783	235	83,277	216,774
Total Exports	643,244	619,197	501,339	653,328	888,700	823,313		883,297	1,132,138	1,257,526	1,204,494	992,074	1,122,583	823,870	467,005	636,940	911,742
Boilers															61,261	513,984	950,455

x Adjusted to be comparable with previous annual figures which contain data for the Hydro Electric Power Commission fiscal year ended October 31.

QUEBEC

MONTHLY OUTPUT

(Thousands of Kilowatt Hours)

Month	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
January	219,908	266,315	352,194	458,883	613,339	728,704	745,711	735,385	721,827	785,142	868,589	1,082,127
February	211,419	266,987	322,443	453,160	604,439	645,949	686,957	674,561	682,590	718,527	805,145	962,897
March	234,195	310,699	358,318	496,011	621,465	714,744	741,411	703,708	713,228	747,878	881,766	1,032,571
April	247,133	319,598	348,958	489,349	601,970	685,194	744,860	717,900	700,575	703,886	925,386	1,027,151
May	246,992	334,483	399,832	503,566	600,568	709,909	761,327	693,853	661,740	757,717	1,036,240	1,061,981
June	250,515	325,498	407,028	509,764	596,804	677,921	709,245	638,719	633,614	774,039	963,548	982,461
July	269,454	321,922	411,974	517,409	614,556	696,620	722,335	620,634	606,872	818,059	904,257	979,371
August	264,185	311,719	406,278	561,335	637,862	713,519	710,842	644,447	663,911	865,746	910,807	1,004,061
September	265,960	319,056	404,016	551,461	608,144	746,678	704,124	662,427	687,536	829,045	852,236	1,045,631
October	291,990	349,109	452,722	616,227	724,509	813,809	781,996	736,381	763,596	878,096	1,009,596	
November	288,024	332,964	473,552	606,917	737,298	797,314	764,490	731,014	823,040	888,123	1,084,381	
December	286,850	371,006	470,317	639,749	714,215	746,934	764,612	722,508	801,939	862,635	1,114,243	
Total	3,076,625	3,829,356	4,807,632	6,403,831	7,675,169	8,677,295	8,837,910	8,281,537	8,460,468	9,628,893	11,356,194	

BOILER CONSUMPTION

(Thousands of Kilowatt Hours)

January	5,936	30,574	73,052	115,294	147,399	167,180	158,156	144,121	197,843	244,622	276,787	379,677
February	3,036	39,081	59,867	123,334	143,431	148,634	153,041	140,603	190,599	230,192	266,777	345,901
March	4,655	44,258	55,015	129,338	132,151	182,351	166,660	145,424	214,700	236,576	303,731	351,844
April	12,712	48,447	49,769	146,282	140,473	178,319	189,301	184,579	235,449	230,226	367,805	367,731
May	10,555	45,563	90,133	136,539	129,111	179,906	188,888	147,753	204,356	234,169	365,391	378,324
June	19,060	33,861	93,975	132,235	127,138	171,144	163,198	122,464	189,228	221,741	347,731	325,830
July	24,243	35,107	81,191	115,700	126,739	168,921	155,685	112,590	180,169	223,257	280,670	305,987
August	27,326	35,127	76,950	123,518	142,442	162,464	150,441	117,465	190,459	244,788	279,653	299,914
September	32,888	39,366	74,293	130,468	133,377	184,557	146,434	121,275	194,561	207,085	243,449	322,087
October	35,283	43,534	81,101	175,366	163,035	192,671	175,953	170,428	244,529	216,567	326,327	
November	38,727	41,225	93,570	158,882	177,206	183,485	175,568	189,699	251,567	279,115	412,697	
December	42,188	38,378	88,279	155,280	168,474	152,663	168,075	184,910	248,888	286,068	429,719	
Total	256,609	474,521	917,195	1,642,236	1,730,976	2,072,295	1,991,400	1,781,311	2,542,348	2,854,406	3,900,736	

EXPORTS TO THE UNITED STATES
(Thousands of Kilowatt Hours)

Month	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
January	28,527	9,232	22,258	22,277	23,537	33,362	32,188	45,257	17,557	14,622	27,312	29,630
February	29,937	20,470	18,941	23,231	25,105	32,113	30,949	43,907	11,704	14,522	24,760	26,748
March	38,060	29,832	27,434	30,598	29,935	39,602	36,504	30,750	11,009	11,346	27,239	28,802
April	37,837	38,261	33,675	31,557	28,886	33,349	37,479	29,239	13,227	1,843	12,996	25,146
May	40,925	37,025	34,397	32,134	30,303	31,512	45,907	30,155	7,828	5,951	27,334	25,006
June	38,418	35,335	33,356	32,402	30,927	36,911	47,312	29,420	22,335	38,182	25,794	29,713
July	40,545	38,155	35,406	39,837	37,337	39,595	48,062	33,533	20,423	51,017	26,719	24,883
August	38,503	36,889	35,270	45,807	38,566	44,344	45,827	41,290	30,077	46,022	29,950	43,149
September	36,932	36,994	32,424	41,421	40,899	44,514	45,050	35,957	28,764	47,232	28,800	48,056
October	37,267	37,617	33,196	31,737	40,787	35,924	38,667	31,077	9,264	48,609	28,815	Est.
November	36,360	35,756	32,694	29,121	37,055	33,500	31,480	17,758	162	29,353	28,012	
December	22,708	28,233	21,250	30,791	33,356	27,141	37,343	21,193	8,149	25,812	29,988	
Total	426,019	383,799	360,301	390,913	396,693	431,867	476,768	389,536	180,499	334,511	317,719	5

EXPORTS TO OTHER PROVINCES
(Thousands of Kilowatt Hours)

January						83,027	119,262	127,299	165,633	158,379	215,942
February						68,204	108,489	124,522	154,617	140,775	181,601
March						69,733	114,329	117,637	161,224	149,772	194,998
April						83,716	107,192	110,686	144,228	176,658	198,787
May						86,983	110,820	131,334	163,163	201,959	201,659
June						79,640	98,442	118,364	156,543	191,924	180,149
July						82,085	95,942	118,700	162,856	183,250	188,826
August						87,025	104,360	124,310	170,495	172,096	194,148
September						87,791	106,021	131,619	178,437	176,967	196,572
October						113,692	115,438	154,099	190,738	202,986	
November						112,158	120,403	168,327	161,755	210,364	
December						115,848	119,240	161,791	149,538	203,538	
Total						x1,073,798	1,325,111	1,588,688	1,959,227	2,170,165	

x Includes 3,396 not distributed.

∫ Includes 5,173 not distributed.

∅ Includes 1,496 not distributed.

ONTARIO

MONTHLY OUTPUT

(Thousands of Kilowatt Hours)

Month	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
January	354,976	394,977	442,903	490,559	492,680	517,625	550,300	470,383	374,534	318,047	535,549	579,216
February	329,305	345,133	404,045	438,565	469,468	471,283	490,182	423,001	355,865	323,823	525,960	544,308
March	344,287	376,244	436,369	474,590	499,228	514,945	529,170	452,184	394,245	350,966	603,803	578,313
April	327,863	361,977	416,421	448,263	465,016	494,565	510,439	415,499	363,099	338,388	473,785	533,766
May	339,115	365,777	427,145	444,674	488,113	517,767	525,012	394,273	344,636	335,792	488,861	535,914
June	302,005	351,224	432,067	444,487	462,371	492,414	486,041	379,689	325,476	349,167	468,359	530,348
July	304,595	355,527	421,289	430,570	448,267	506,759	460,959	369,302	317,815	374,262	434,249	499,777
August	310,706	357,803	436,617	493,214	478,979	516,296	457,706	352,877	326,023	392,773	472,416	529,631
September	323,113	382,918	458,512	472,676	472,767	506,719	485,332	355,122	337,475	400,098	473,008	546,907
October	347,096	431,128	487,115	618,312	503,561	531,179	522,078	384,065	348,533	434,049	516,475	
November	347,949	419,347	468,000	609,331	499,521	550,173	480,222	373,084	333,573	492,976	524,362	
December	371,144	445,252	493,958	640,010	505,698	534,244	480,753	385,407	326,180	515,612	578,931	
Total	4,002,154	4,587,307	5,324,441	6,005,251	5,785,669	6,153,969	5,978,194	4,754,886	4,147,454	4,625,953	6,095,758	

BOILER CONSUMPTION

(Thousands of Kilowatt Hours)

January					1,296	650	1,277	8,993	96,596	118,234
February					1,238	303	4,104	37,842	95,275	105,409
March					1,259	463	4,950	40,847	106,316	108,439
April					1,091	425	4,793	40,258	86,590	100,977
May					576	320	4,234	38,022	76,630	103,931
June					699	138	4,163	33,690	67,293	98,395
July					436	90	4,485	33,073	55,926	84,767
August					378	62	4,114	39,995	72,801	88,434
September					161	-	7,772	36,979	76,423	89,485
October					79	71	9,510	51,596	91,553	
November					436	255	9,016	77,553	100,640	
December					609	1,218	9,803	82,869	109,973	
Total					8,258	3,998	72,221	521,717	1,036,028	

-9-

EXPORTS TO THE UNITED STATES
(Thousands of Kilowatt Hours)

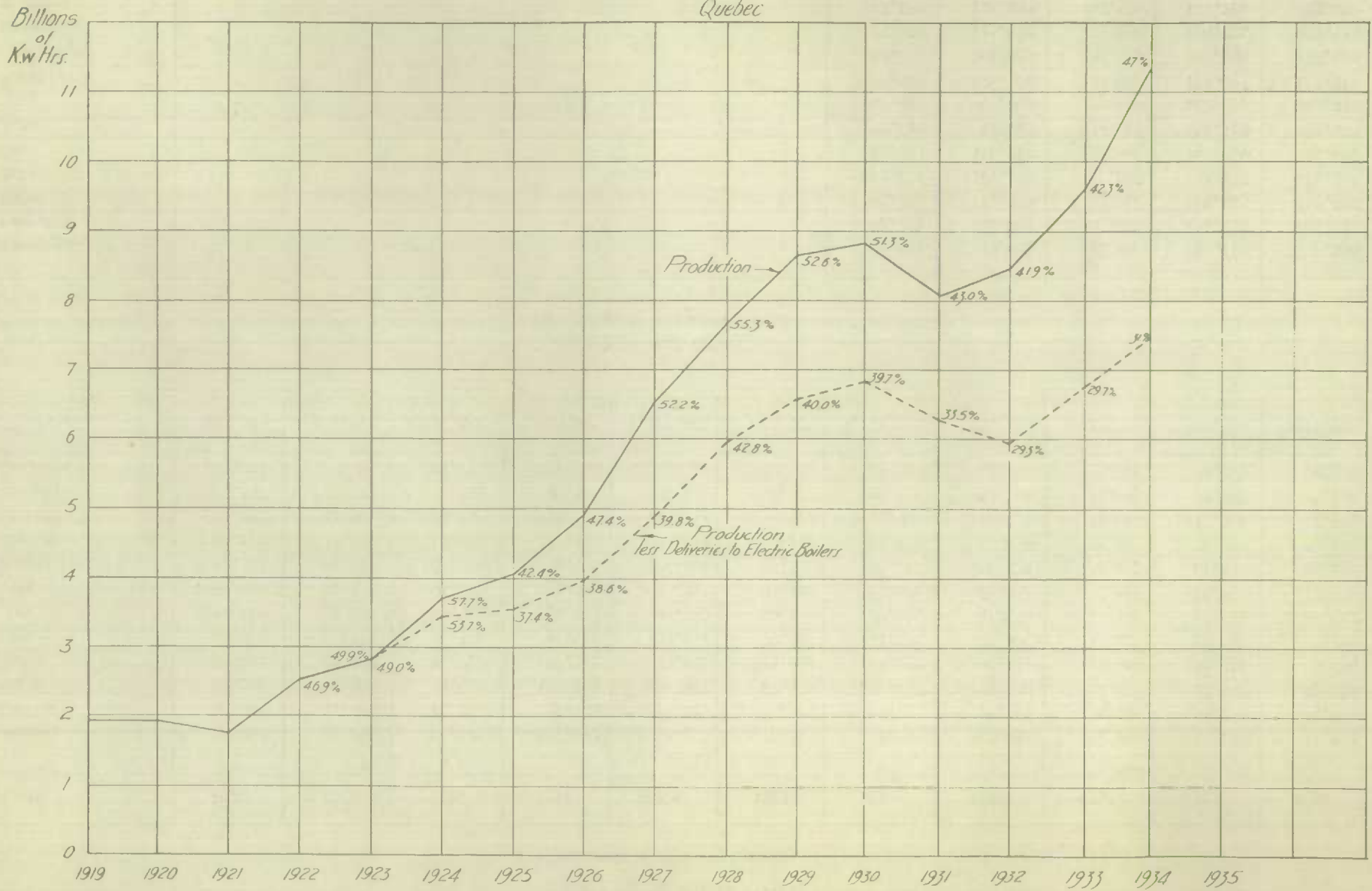
Month	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
January	80,066	78,254	88,677	107,499	99,455	78,769	79,095	115,091	42,373	31,707	71,323	82,216
February	68,024	64,724	77,756	97,605	96,865	77,127	85,137	99,793	39,008	30,579	75,598	80,877
March	75,585	66,080	78,109	102,049	104,949	85,485	88,807	95,508	42,676	32,466	83,076	73,183
April	66,484	66,330	81,297	97,214	92,421	75,866	78,450	66,767	40,206	31,916	48,594	70,588
May	68,850	67,795	84,303	91,547	103,468	79,135	81,721	55,004	42,007	35,705	82,282	67,666
June	57,669	69,456	93,344	106,126	95,722	80,856	87,054	57,432	40,928	47,534	86,542	76,929
July	59,886	69,377	96,160	97,346	91,897	87,386	82,184	60,058	37,085	66,861	77,558	66,705
August	62,586	71,137	104,788	110,506	106,184	87,149	95,217	56,828	37,435	61,877	84,488	85,344
September	64,870	76,980	110,585	111,771	87,533	90,285	106,632	55,698	41,044	74,066	76,664	92,320
October	68,855	84,901	109,802	110,188	112,377	88,613	120,907	62,420	39,687	77,068	76,584	
November	72,637	78,998	94,358	99,365	98,994	88,622	108,208	53,766	33,065	75,392	70,108	
December	77,801	87,711	105,179	98,709	87,532	72,982	109,889	46,158	31,701	71,769	78,925	
Total	823,313	881,743	1,124,358	1,229,925	1,177,397	992,275	1,123,301	824,523	467,215	636,940	911,742	

IMPORTS FROM QUEBEC
(Thousands of Kilowatt Hours)

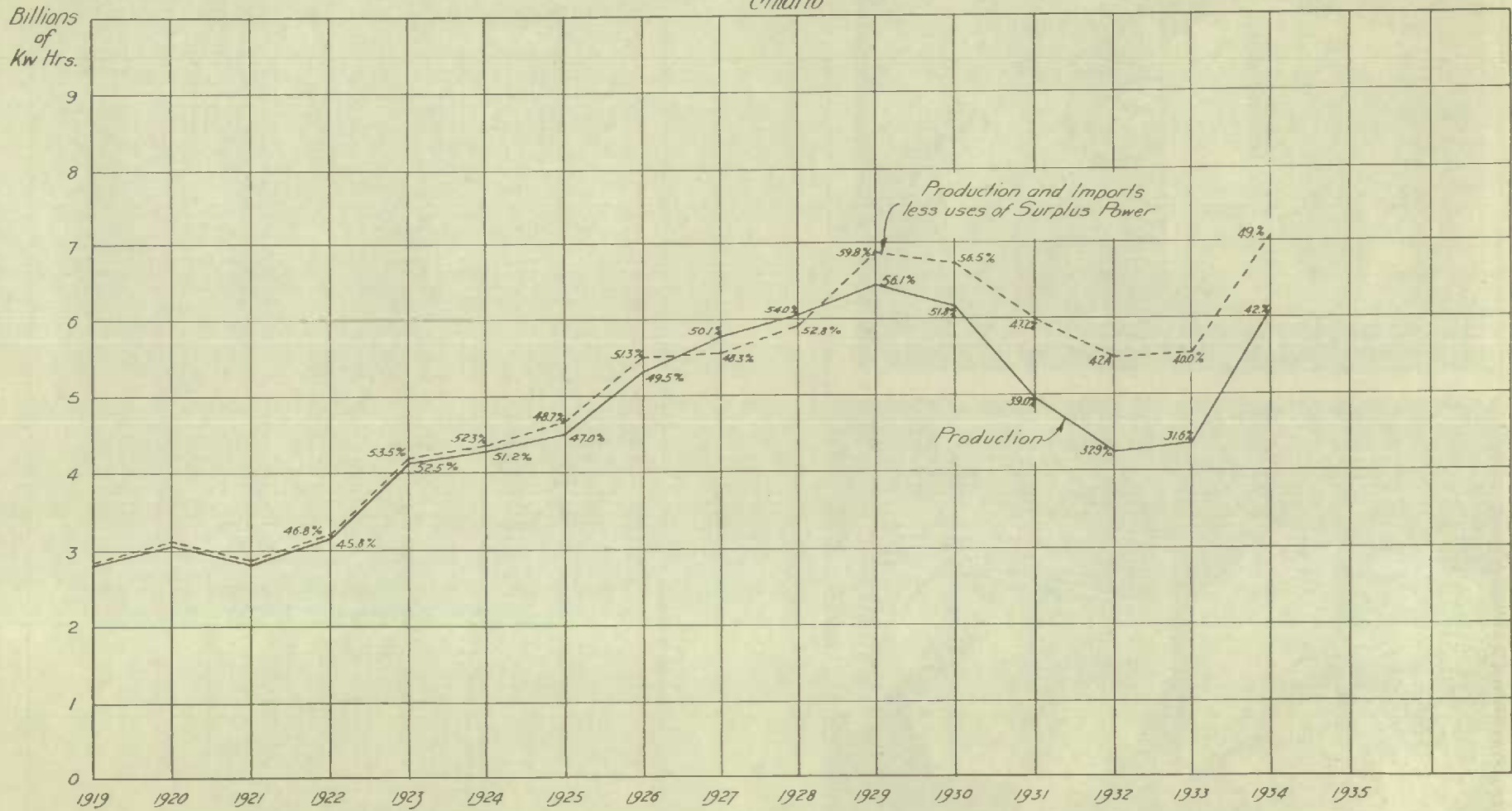
January						83,027	119,262	126,884	165,177	157,893	215,396
February						68,204	108,489	124,038	154,144	140,267	181,178
March						69,733	114,329	117,241	160,823	149,380	194,582
April						83,716	107,192	110,227	143,819	176,226	198,292
May						86,983	110,820	130,944	162,769	201,497	201,264
June						79,640	98,442	117,872	156,119	191,473	179,744
July						82,085	95,942	118,333	162,457	182,818	188,365
August						87,025	104,360	123,921	170,077	171,716	193,663
September						87,791	106,021	131,173	177,990	176,448	196,092
October						113,692	115,438	153,650	190,324	202,539	
November						112,158	120,403	167,873	161,261	209,897	
December						115,848	119,240	161,311	149,077	203,056	
Total						1,069,902	1,319,938	1,583,467	1,954,037	x2,164,706	

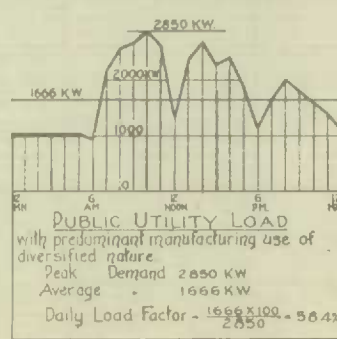
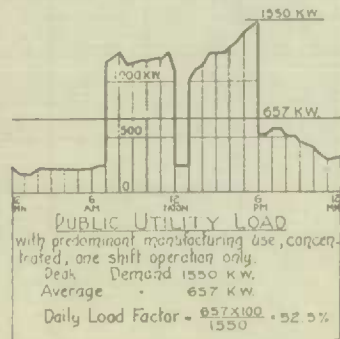
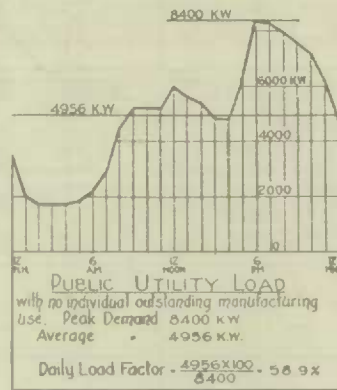
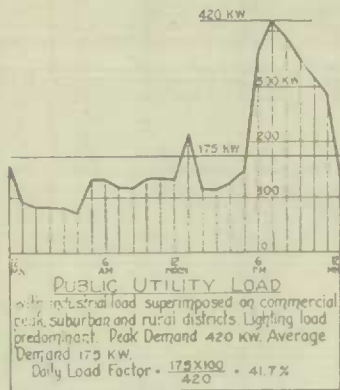
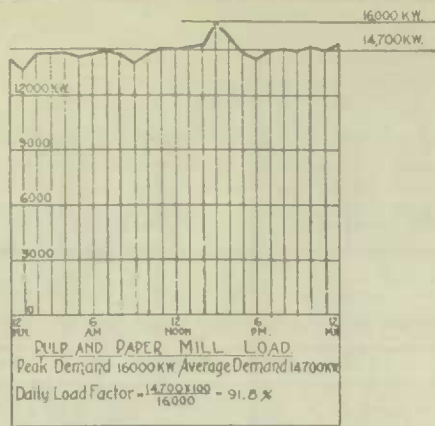
x Includes 1,496 not distributed.

Central Electric Stations Quebec

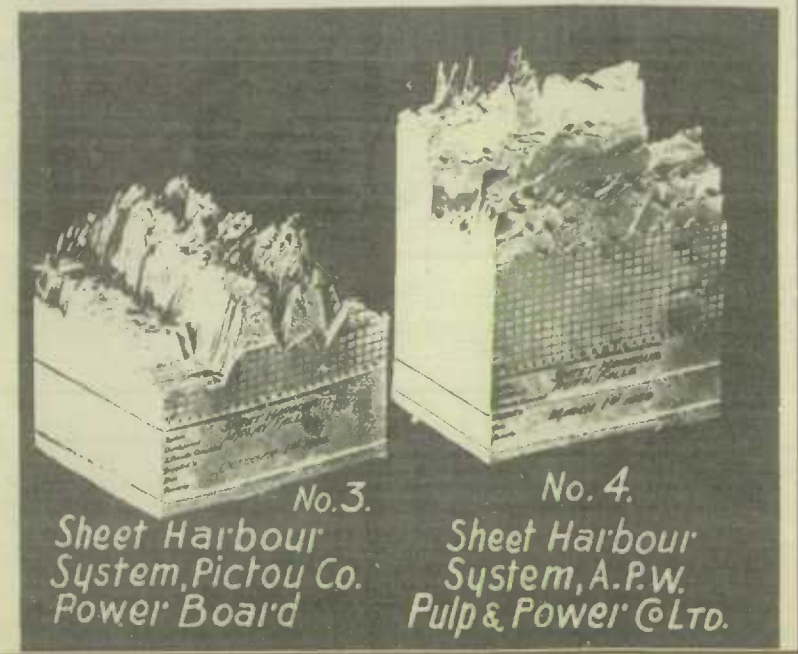


Central Electric Stations Ontario





CHARTS INDICATING THE DIFFERENCE IN LOAD FACTOR ON SYSTEMS SUPPLYING DIFFERENT TYPES OF LOAD.



Load Curve Cards.

STATISTICS CANADA LIBRARY
 BIBLIOTHÈQUE STATISTIQUE CANADA
 1010440844