SERVICE BULLETIN

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ENERGY STATISTICS

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NEW SERVICE BULLETIN

This is the first issue of a service bulletin on Energy Statistics. Its prime purpose is to release to interested users data as it becomes available and which will later be incorporated in final form in regular D.B.S. publications. It is also intended to release in this publication a number of items which up to now have been issued separately as well as information of general interest to the energy field which may come from other areas of statistical interest.

One of the major functions that we hope to fulfill with this bulletin is the preliminary release of data which although generally believed to be reliable will of necessity contain some estimates and inaccuracies. In this manner data will be made available to our users on as current a basis as possible.

It is planned to issue this bulletin not less frequently than once a month. A charge will be made when it is well established but for the present it is being sent to you on a complimentary basis. In the meantime we would appreciate your suggestions on changes that you think would improve this bulletin.

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1. Electric Energy Generation 1965 Preliminary figures indicate that the net generation by firms which generate a minimum of 10 million Kwh. per annum amounted to 142,765 million Kwh. in 1965. This represents an increase of 6.3 per cent over the 134,292 million Kwh. which were generated in 1964.

During the year, imports from the United States increased to 3,400 million Kwh. from 2,976 million Kwh. while exports decreased by 660 million Kwh. to 3,225 million Kwh. As a result, net energy used in Canada rose to 142,940 million Kwh. in 1965, a gain of 7.4 per cent over the corresponding 1964 figure. Secondary energy used in Canada rose slightly to 3,570 million Kwh. in 1965. Thus, firm energy used in Canada increased to 139,370 million Kwh. from 129,563 million Kwh. in 1964.

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2. Generating Capacity 1964-1965 In 1965 Canada had the second largest increase in its generating capacity in its history, adding 2,265 megawatts second only to the 1959 total of 2,460 megawatts. Total installed generating capacity amounted to 29,292 megawatts, a rise of 4.7 per cent over the 1964 capacity. New hydro generating capacity added in 1965 amounted to 1,447 megawatts while 818 megawatts of new thermal capacity was installed during the same period.

The large increase in hydro generating capacity during the year is the result of the partial completion of sites which are relatively remote from load centres. The development of these sites was made possible by research which led to the use of 500 Kv. and 735 Kv. line which carries energy from Hydro-Quebec's Manicouagan-Outardes complex to load centres in the province was energized in 1965. It is the highest voltage line ever to be constructed.

The largest increases in hydro generating capacity occurred in Hydro Quebec's Manicouagan 2 plant (635 Mw), Manitoba Hydro's Grand Rapids plant (330 Mw), Calgary Power's Big Bend plant (144 Mw), Ontario Hydro's Harmon plant (129 Mw) and Manicouagan Power Company's McCormick plant (120 Mw).

The most notable increases in thermal generating capacity were in four steam plants - Ontario Hydro's Lakeview plant (300 Mw), British Columbia Hydro and Power Authority's Burrard plant (150 Mw), Hydro Quebec's Tracy plant (150 Mw) and Nova Scotia Light and Power Company's Tufts Cove plant (100 Mw).

Installed Generating Capacity (Preliminary) at End of Years 1964 and 1965

	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.
	nameplate rating in thousands of kilowatts (megawatts)											
1964												
Hydro	20,313	453	-	143	231	9,555	5,920	743	320	291	2,612	45
Steam	5,960	45	51	377	297	220	2,796(1)	322	557	777	517	1
Internal combustion ..	341	15	7	13	8	27	35	10	37	40	129	20
Gas turbine	413	-	-	-	-	36	-	4	53	143	175	2
1964 total	27,027	513	58	533	536	9,838	8,751	1,079	967	1,251	3,433	68
1965												
Hydro	21,760	466	-	143	262	10,308	6,064	1,074	320	444	2,615	64
Steam	6,677	45	51	477	311	370	3,096(1)	322	560	777	667	1
Internal combustion ..	379	17	7	17	8	27	35	10	37	44	157	20
Gas turbine	476	-	-	-	-	36	63	4	53	143	175	2
1965 total	29,292	528	58	637	581	10,741	9,258	1,410	970	1,408	3,614	87

(1) Includes 20,000 kw. nuclear generating capacity.

3. Oil Pipeline Transport 1964 Increases in the domestic production of crude petroleum and equivalent hydrocarbon liquids stimulated increased activity in the oil pipeline transport industry during 1964. The 1964 production amounted to 313.1 million barrels, an increase of 9.1 per cent over 1963.

Net receipts into crude oil pipelines increased 6.6 per cent over 1963 with product receipts showing a corresponding increase. Alberta continued to provide the largest percentage of receipts with 45.3 per cent followed by Quebec (imports) 22.7 per cent and Saskatchewan 17.7 per cent. A summary of the provincial distribution of receipts into pipelines is as follows.

	Crude Oil	Products	Total
	million barrels		
Alberta	200.6	7.8	208.4
Quebec	94.2	10.0	104.2
Saskatchewan	80.4	0.9	81.3
Ontario	-	48.0	48.0
British Columbia	12.2	1.1	13.3
Manitoba	4.6	-	4.6
Totals	392.0	67.8	459.8

The sources of receipts into crude oil pipelines were 67.4 per cent from field gathering systems, 24 per cent imports, 5.6 per cent from natural gas processing plants and 3.0 per cent other carriers.

The sources of receipts into product pipelines were 90.4 per cent from refineries, 8.8 per cent from natural gas processing plants and 0.8 per cent from imports. Receipts from natural gas processing plants were 6 million barrels during 1964, as compared with 1.7 million in 1963. This increase is mainly attributable to the 579 miles six inch natural gas liquids pipeline from Empress, Alberta to Winnipeg, Manitoba operated by Petroleum Transmission Company. This pipeline runs parallel to the Trans-Canada gas pipeline and is utilized solely to transport natural gas liquids extracted from Trans-Canada's natural gas stream at the Pacific Petroleum processing plant at Empress.

Exports of crude oil and products via pipeline facilities during 1964 were 104.2 million barrels, an increase of 14.2 per cent over 1963 while imports remained relatively constant at 94 million barrels. Crude petroleum exports increased 12.5 per cent over 1963 while exports of liquefied petroleum gases and other products increased 162.3 per cent during the year.

Trunk lines increased their traffic by 9.0 per cent to 191.2 billion barrel miles of 28.0 billion ton miles while the average length of haul was 416.5 miles per barrel compared with 410.5 miles per barrel for 1963.

Pipeline mileage increased by 1,137 miles during 1964, mainly accounted for by the completion of three new pipeline systems. Largest of these, Petroleum Transmission Company, commenced operation March 31, 1964. This line is from Empress, Alberta, to Winnipeg, Manitoba and consists of 1 mile in Alberta, 384 miles in Saskatchewan and 194 miles in Manitoba. Another new company, Bow River Pipe Lines Ltd., started operating 40 miles of gathering and 231 miles of transmission line in

Alberta. Mitsue Pipeline Limited, Alberta, commenced operations with 94 miles of line, although this line is not yet complete. During the year, also, Producers Pipelines Ltd. increased their line by 58 miles and Interprovincial Pipe Line Company added 53 miles to their line in Manitoba.

The total oil pipeline mileage in Canada of 11,744.3 includes 1,456.9 miles of parallel and looped lines.

In the United States, Trans Mountain Oil Pipe Line Company (through its wholly owned subsidiary, Trans Mountain Oil Pipe Line Corporation) operates 64 miles of pipeline in the State of Washington, Interprovincial Pipe Line Company (through its wholly owned subsidiary, Lakehead Pipe Line Company Inc.) operates 1,465 miles in the United States as follows:

326 miles - 18" - from Gretna, Manitoba to Superior, Wisconsin.
326 miles - 26" - from Gretna, Manitoba to Superior, Wisconsin.
641 miles - 30" - from Superior, Wisconsin to Sarnia, Ontario.
164 miles - 34" loop from Clearbrook, Minn. to Superior, Wisconsin.
8 miles - 20" - two four-mile lines across the Straits of Mackinac, Michigan.

Montreal Pipe Line Company Limited operates 236 miles of pipeline from Portland, Main, to Montreal, Quebec, of which approximately 160 miles are in the United States. The United States Army operates a 625 miles 8" pipeline through the Yukon from Haines to Fairbanks, Alaska. This latter pipeline does not receive or distribute oil in Canada and consequently is not included in the statistics.

Gross additions to fixed assets for the oil pipeline industry for 1964 amounted to $39.2 million, consisting of land and rights-of-way $1.2 million, pipeline and pipeline equipment $27.2 million, buildings, other property and equipment $10.8 million.

Operating revenues in amount of $138.5 million, increased 7.7 per cent over 1963 and were the main sources of funds to finance the operations and expansion of this industry. Operating expenses were $32.1 million, an increase of 5.6 per cent over 1963. Interest on long term debt at $13.7 million decreased 6.2 per cent from $14.6 million in 1963. Income taxes in amount of $37.4 million increased 13.7 per cent over 1963. The net income of this industry after providing for allowances for depreciation and income taxes was $46.0 million, an increase of 17.0 per cent over the 1963 net income of $39.3 million.

Total assets of this industry amounted to $566.5 million as at December 31, 1964. Interprovincial companies owned $339.5 million or 60 per cent of this total with the remaining 40 per cent being owned by companies operating within provincial boundaries.

Although the total number of employees decreased to 1,492 in 1964 from 1,501 the previous year, total salaries increased to $10,665,313 from $10,323,846 resulting in average annual earnings per employee of $7,148,in 1964 and $6,878 in 1963.

Selected Oil Pipeline Transport Statistics for the years 1960 to 1964

	1960	1961	1962	1963	1964		
Net Receipts into Pipelines:							
Domestic Crude	185.1	221.6	254.9	274.0	297.8	million	barrels
All Commodities	315.5	352.5	387.5	431.1	459.8	"	"
Refinery Consumption of:							
Domestic Production	149.3	157.2	173.6	186.2	199.5	"	"
Imports	126.8	133.2	135.4	146.6	143.9	"	"
Exports via pipeline	41.8	67.8	86.6	91.2	104.2	"	"
Pipeline mileage	8,436.7	9,553.9	10,037.3	10,607.4	11,744.3	miles	
Average length of haul	390.4	426.8	438.6	410.5	416.5	miles	
Barrel miles	119,109.2	147,032.1	166,208.1	175,492.6	191,241.6	million	
Operating revenue	94.2	106.7	122.7	128.6	138.5	million	dollars
Operating expenses	22.9	24.6	28.1	30.4	32.1	"	"
Depreciation	17.8	18.7	20.5	21.4	22.0	"	"
Net income after income tax	23.5	30.7	35.7	39.3	46.0	"	"
Property account	485.5	535.6	557.7	582.7	617.8	"	"
Long term debt	298.9	322.7	309.8	298.8	291.1	"	"

Fossil Fuel Production 1964-1965

The total value of fossil fuel production for the first time exceeded $1 billion. Estimates of production in 1965 were $1,075,000,000, 7.7 per cent above last years $998 million. Production of all fossil fuel commodities increased, accompanied by corresponding increases in value with the exception of coal where production increased but value decreased slightly. Alberta contributed the largest portion of production value approximately 3/4 followed by Saskatchewan with 1/5 Canadian production value, British Columbia with 5 per cent and Nova Scotia 4 per cent.

Oil was the leading commodity accounting for 3/4 of the total and assuring Alberta of the dominant position they enjoy in fossil fuel production in Canada. Natural gas accounted for 15 per cent and natural gas by-products for an additional 8 per cent, both of which enhanced Alberta's dominance in production. In coal, Nova Scotia was the leading producer both in volume and value followed by Alberta and Saskatchewan with relatively large volumes of low value coal.

Fossil fuels ranked second in terms of value of total mineral production in Canada, accounting for 28.8 per cent of the total mineral production of $3.7 billion as compared with last year's $998 million or 29.4 per cent of a total mineral production of $3.3 billion.

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Fossil Fuel Production 1964-1965

		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
1965														
Coal	Ton	-	-	4,118,000	970,000	-	-	-	2,059,000	3,317,000	952,000	9,000	-	11,425,000
	$	-	-	41,950,000	8,300,000	-	-	-	3,785,000	11,500,000	6,000,000	110,000	-	71,645,000
Natural gas	Mcf.	-	-	-	100,380	-	13,369,000	-	41,565,000	1,253,029,000	161,976,000	-	44,075	1,470,083,455
	$	-	-	-	106,400	-	5,573,000	-	4,272,000	169,380,000	17,947,000	-	18,511	197,296,911
Natural gas-by products	$	-	-	-	-	-	-	-	2,270,309	86,852,464	3,424,681	-	-	92,547,454
Crude petroleum	Bbls.	-	-	-	3,000	-	1,297,000	5,003,000	87,619,000	185,506,941	13,511,000		- 632,000	293,571,941
	$	-	-	-	4,170	-	4,176,340	11,661,993	200,384,653	474,341,248	27,207,101		- 472,736	718,248,241
Total fuels	$	-	-	41,950,000	8,410,570	-	9,749,340	11,661,993	210,711,962	742,073,712	54,578,782	110,000	491,247	$1,079,737,606
Total metallics, non-metallic fossil fuels and structural materials														$3,737,055,548
1964														
Coal	Ton	-	-	4,293,130	1,003,362	-	-	-	1,994,039	2,971,133	1,050,430	7,229	-	11,319,323
	$	-	-	42,827,589	8,454,869	-	-	-	3,905,202	11,182,833	6,266,442	98,150	-	72,735,085
Natural gas	Mcf.	-	-	-	105,055	-	13,815,967	-	40,485,795	1,137,726,278	135,496,946	-	34,297	1,327,664,338
	$	-	-	-	112,303	-	5,759,876	-	4,160,782	149,594,796	13,324,698	-	14,405	172,966,860
Natural gas-by products	$	-	-	-	-	-	-	-	2,272,637	73,338,176	3,078,187	-	-	78,689,000
Crude petroleum	Bbls.	-	-	-	4,688	-	1,246,682	4,417,224	81,404,430	175,441,589	11,525,476		- 586,296	274,626,385
	$	-	-	-	6,516	-	4,014,316	10,296,549	186,171,931	450,186,921	23,261,946		- 438,549	674,376,728
Total fuels	$	-	-	42,827,589	8,573,688	-	9,774,192	10,296,549	196,510,552	684,302,726	45,931,273	98,150	452,954	$ 998,767,673
Total metallics non-metallics, fossil fuels and structural materials														$3,387,811,057