

C

SASKATCHEWAN

CORPORATION

ANNUAL  
REPORT  
1977

HOWARD ROSS LIBRARY  
OF MANAGEMENT  
AUG 1 1978  
MCGILL UNIVERSITY



## Corporate Management

- Mr. F. G. Ursel, General Manager
- Mr. E. B. Campbell, Deputy General Manager
- Mr. D. E. Cuddington, Comptroller
- Mr. W. R. Wiggins, Manager, Electric System
- Mr. B. A. Steuart, Acting Manager, Gas System
- Mr. A. J. Bast, Director of Personnel
- Mrs. K. D. Wellman, Corporate Legal Counsel
- Mr. W. H. Correll, Manager, Business and Information Services

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Saskatchewan Power Corporation,  
2025 Victoria Avenue,  
Regina, Saskatchewan, S4P 0S1

## Highlights

	1977	1976	% Increase (Decrease)
	(\$ millions)		
Revenue from sales . . . . .	281.9	224.5	25.6
Net income . . . . .	22.3	20.5	9.2
Funds from operations . . . . .	54.7	48.2	13.7
Capital expenditures . . . . .	167.6	145.6	15.1
Energy Sold			
—electricity (billions of kW·h). . .	6.9	6.3	9.7
—gas (billions of cubic feet). . . . .	108.5	103.8	4.5



Regina  
1978, March

To His Honour,  
C. Irwin McIntosh, Lieutenant Governor of  
the Province of Saskatchewan.

Sir:

I have the honour to submit herewith the Annual Report of the Saskatchewan Power Corporation for the year ended 1977, December 31, including the financial statements for the year duly certified by the Provincial Auditor and in the form approved by the Treasury Board, all in accordance with The Power Corporation Act.

I have the honour to be, Sir,

Your obedient servant,

Minister in Charge of the  
Saskatchewan Power Corporation

## Board of Directors

Hon. J. R. Messer, Chairman, Regina, Minister of Mineral Resources	Mr. D. F. McArthur, Regina, Planning Consultant
Hon. G. T. Snyder, Vice-Chairman, Regina, Minister of Labour	Mr. L. Minogue, Lacadena, Farmer
Mrs. M. L. Heavin, Melfort, Homemaker	Mr. C. S. Mitchell, Sturgis, Reeve, R.M. of Preeceville, Farmer
Mr. F. M. Hodgkinson, Saskatoon Chairman, North-Sask Electric Ltd., Assistant Cabinet Secretary	Mr. J. R. S. Sadler, Regina Corporate Officer, Government Finance Office
Mrs. A. N. Hynd, Regina Deputy Minister, Consumer Affairs	Mr. G. A. Simons, Regina, Industrial Relations Director, Potash Corporation of Saskatchewan
Mr. A. J. Kuechle, North Battleford, Principal, Notre Dame School	
Mr. R. E. Lloyd, Regina, Chief Planning Officer, Executive Council	Mr. L. H. Stevenson, Muscow, Director, North-Sask Electric Ltd., Farmer



## Foreword

The year just ended was one of considerable growth in the Corporation's electric operations both in terms of the peak demand placed on the system and the amount of energy delivered to customers throughout the year. Because 1977 was warmer than normal, natural gas requirements by the Corporation's customers increased little compared to 1976. The use of natural gas in power plants increased by 28 per cent to generate the power which was not available from hydro stations because of low river flows. Without this increase, the system's gas requirements would have been only marginally higher than the 1976 requirements, since the volume of sales to TransCanada PipeLines decreased in accordance with the contract.

In terms of energy supply, 1977 was a year of progress and achievements. Additional generating capacity, which had been in the planning and construction stages since early 1973, was brought into production. Construction of further capacity, needed in 1979 and 1980 to meet the forecast needs of customers, installation of wells and gathering systems in four new gas fields and construction of four compressor stations to make new Alberta reserves available, all proceeded on schedule. The time needed for public hearings, regulatory board reviews and unprecedented environmental considerations is increasing substantially the period from the first day of planning to the first day of production of all energy projects.

The Corporation's ability to meet its customers' electricity requirements was improved significantly by the addition of a 300 MW (megawatt) generating unit, the first of that size on the Corporation's system, at the Boundary Dam Power Station. The unit was not available until late in the year but immediately made a major contribution to the supply of customer capacity and energy requirements during December.

In addition to providing electrical energy, operation of the new unit results in permanent employment for about 25 additional employees in the plant plus a further 33 in the coal mines supplying the station. Consumption of lignite coal, will be increased by approximately 1 600 000 Mg (megagrams)\* annually.

Construction at the new Poplar River Power Station at Coronach continued on a schedule that will bring the plant into production in 1979. Intensified and continuous efforts by representatives of interest groups in Montana to halt construction at the plant required extensive consideration and response throughout the year.

Concerns about air quality, water quality, water apportionment and the safety of the dam on the East Poplar River were widely publicized.

On the matter of air quality, the governments of the United States, Montana, Canada and Saskatchewan agreed in 1975 that one 300 MW unit would not create a problem across the Canada/U.S. boundary. They also agreed that, depending on verification of assumptions concerning the retention of sulphur in the ash, two 300 MW units would not create a problem. The assumptions were subsequently supported by test burns of lignite coal from the Coronach area. Results of a test burn conducted by the Corporation at Boundary Dam Power Station in 1975, December, were transmitted to the U.S. officials in 1976, May by the Federal Department of the Environment. Subsequent tests conducted by the Canadian Combustion Research Laboratory, Department of Energy, Mines and Resources, corroborated earlier conclusions.

The matters of water quality and water apportionment were referred to the International Joint Commission (IJC) as provided by the Boundary Waters Treaty of 1909. The International Poplar River Water Quality Board established by the Commission requested copies of reports on environmental impact studies carried out by the Corporation's consultants for submission to the Saskatchewan Department of the Environment. These reports will be made available early in the new year upon completion of the final report. The Corporation is satisfied that the Coronach development will not result in any injury to downstream water users.

The land acquisition problems associated with the plant at Coronach have been particularly time consuming

\*1 Mg = 1.1 tons



and it now seems likely that their final settlement will be more costly than previous settlements. Dr. Lloyd Barber, president of the University of Regina, was appointed as mediator. Substantial progress had been made by year-end and resolution of the problems is expected early in 1978.

Future generation alternatives being considered by the Corporation include new hydro plants on the Churchill River at Wintego Rapids and on the Saskatchewan River near Nipawin and the addition of a second unit at the Poplar River station. Before any of these alternatives can proceed, public hearings will be held. A Board of Inquiry was appointed in 1977, January, to examine and report to the government on whether Saskatchewan Power should build a dam for hydro-electric power at Wintego Rapids on the Churchill River. The Board is expected to submit its report about mid-1978. A joint Board of Inquiry for the other two alternatives was appointed in 1977, December and their recommendations are also expected about mid-1978.

During 1977, the cost of natural gas from Alberta continued to increase as a result of gas price regulations by the Alberta and Federal Governments. The gas supply outlook for the immediate future is secure, but the Corporation is continuing its endeavors to secure additional supplies at acceptable costs for the longer term. During 1977, the Alberta government approved gas removal permits for gas owned or contracted by Many Islands Pipe Lines Limited in the Saddle Lake and Esther areas of Alberta. Applications for these permits were made in 1975 and 1976 respectively.

The Federal Court of Canada refused to grant an appeal by Saskatchewan Power Corporation concerning the jurisdiction of the National Energy Board over gas redelivered by TransCanada PipeLines Limited. The National Energy Board had ruled that Saskatchewan Power Corporation must pay the then current Saskatchewan zone rate; and with the advent of the Petroleum Administration Act subsequently ruled that Saskatchewan Power Corporation must pay the rate established in accordance with that Act.

Saskatchewan Power Corporation is paying the higher prices under protest, and is appealing the jurisdiction of the National Energy Board to the Supreme Court of Canada. The Corporation is also appealing the price currently in effect to the Federal Court of Canada on the grounds that it is not just and reasonable.

While the overall objective of the Corporation will continue to be to supply electricity and natural gas to the residents of Saskatchewan to meet their needs, the availability of energy from conventional sources dictates the need for each customer to use these resources judiciously. During the year, intensified efforts were introduced to promote the conservation of electricity and gas. The Corporation is encouraged by early indications that some customers are accepting the need to conserve.

In the matter of costs, the year was again discouraging — primarily because of price increases. Gas costs were higher by more than \$23 million, coal costs were about \$6 million higher and wage costs advanced by almost \$9 million.

Significantly higher capital costs began with the placing in service of new generating and associated facilities and in the latter part of the year the value of the Canadian dollar declined adding to interest and debt repayment costs. Further electric and gas rate increases were necessary to meet these costs. The milder weather softened the customer impact of 1976 rate increases. However, the combined effect of the 1976 and 1977 rate increases was very consequential for all customers. The outlook for the future reinforces the need for all to conserve and to use energy resources wisely.

In 1977, the Corporation established a rate stabilization reserve to relieve the continuing pressure on the cost of power and gas created by inflation and the uncertainties of hydro availability resulting from weather variations. The reserve of \$6 million, established for 1977, has been set aside from SPC retained earnings and is assisted by a reduction of the dividends declared to the Government of Saskatchewan. The fund will be used to phase in future cost increases into SPC rates for service in a manner that will minimize the impact of rising utility costs to the customer.



# Operations

## Load Growth — Electric

At the end of 1977, Saskatchewan Power was serving 327 323 electric customers. This was 11 688 more than the number of customers in 1976, December.

Electricity requirements increased in all customer categories and totalled 6 960 900 000 kW·h (kilowatt hours) for the year. This total exceeded 1976 requirements by 9.7 per cent. Large industries used 15.2 per cent more electrical energy during 1977 with the major increases being required by potash and oil pipeline pumping customers. The increase in consumption by farm and residential customers was 8.0 per cent. For general service customers, the increase was 8.7 per cent.

Customer demand pushed the generation peak to 1 522 000 kW (kilowatts) on December 7. This peak was more than 13 per cent higher than the 1976 peak. Additional demands, totalling 84 000 kW, were avoided by interrupting supply to industrial customers with whom the Corporation has interruptible contracts.

## Supply of Electricity

A year of unusually high energy requirements coupled with low river flows created heavy demands for electrical production from thermal power stations. The Boundary Dam and Estevan stations delivered 55 per cent of the total energy required. A further 24 per cent was generated by other thermal plants.

A new 300 MW unit at Boundary Dam Power Station (BDPS) was available to help meet the record December peak demand. It also was able to produce up to 250 MW during an emergency period when No. 3 and No. 4 units at BDPS were temporarily out of service.

Hydro-generated energy was not available in normal quantities

during 1977 because of lower than normal water flows. The flows on the South Saskatchewan River were only 56 per cent of the long-term average, while on the North Saskatchewan, flows were 89 per cent of the long-term average. Combined flows from the two river systems were about two-thirds of normal and were enough to generate only 16 per cent of customers' energy requirements. In 1976, energy delivered by hydro plants was 25 per cent of the total.

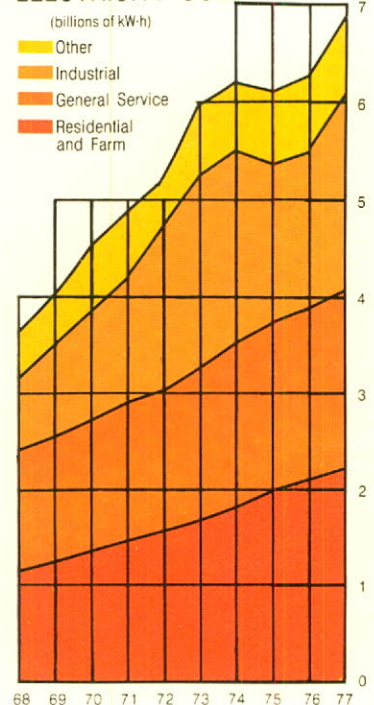
In addition to electrical energy from thermal and hydro sources in Saskatchewan, five per cent of total energy needs was imported through transmission ties with Manitoba Hydro.

The heavy demand for energy caused the Boundary Dam and Estevan stations to produce at full capacity whenever possible. Boundary Dam's production was 25 per cent greater than 1976. A number of changes at the plant and some internal reorganization enabled the plant and staff to increase production significantly.

Generation Statistics

	1977 Rated Generating Capacity (kW)	1977 Gross Generation (kW·h x 10 <sup>6</sup> )	1977 Generation % Increase or (Decrease) From 1976
<b>HYDRO</b>			
Squaw Rapids .....	280 000	807 830	(13.6)
Coteau Creek .....	187 000	469 088	(43.9)
Total .....	467 000	1 276 918	(27.9)
<b>STEAM</b>			
Boundary Dam .....	874 400	4 093 425	24.7
Estevan .....	70 000	449 551	7.2
A. L. Cole .....	108 000	1 677 740	41.7
Queen Elizabeth .....	232 000	1 556 481	29.1
Regina "A" .....	65 000	49 177	108.4
Total .....	1 349 500	6 316 374	25.1
<b>INTERNAL COMBUSTION</b>			
Kindersley .....	20 000	8 884	(49.1)
Success .....	45 000	11 748	51.2
Regina "B" .....	23 000	—	—
Landis .....	70 000	216 666	16.4
Total .....	158 000	237 298	11.7
Total Generation (capacity) ..	1 974 500	7 850 590	11.3
Less Station Service .....	—	440 700	20.5
Net Generated .....	—	7 389 890	10.8
Net Purchased .....	—	353 452	(7.1)
Net System kW·h .....	—	7 743 342	9.8
Northern Diesel Plants .....	6 400	5 087	24.6
Northern Purchases .....	—	16 613	20.4
Total .....	1 980 900	7 765 042	9.9
Annual Peak Load (Net) .....	1 522 000	—	—
(1977-12-07-17:50)	—	—	—
Annual Peak Load (Gross) .....	1 585 000	—	—
Minimum Load (Net) .....	494 000	—	—
(1977-07-21-06:00)	—	—	—

ELECTRICITY SOLD





Production from the Queen Elizabeth Power Station (QEPS) also was increased significantly in 1977 and for the first time this plant operated at maximum capacity for the entire year. The increased energy requirement and the drop in available hydro generation made it necessary to call on QEPS for maximum production. The plant and staff responded by increasing production 33 per cent about the previous year.

The QEPS burned more than 667 000 Mg of sub-bituminous coal from Alberta. This compares with 500 000 Mg in 1976.

The consumption of lignite coal at Boundary Dam and Estevan stations reached 3 600 000 Mg, an increase of 20 per cent over 1976.

It was also necessary to burn 14.6 Bcf (billion cubic feet) of natural gas for thermal power plant fuel. In the future, as more lignite coal is used at Boundary Dam and Poplar River Power

Stations, more energy will come from coal and will, as a result, help the Corporation conserve natural gas.

Coal for the Boundary Dam station included deliveries from the Corporation's new Souris Valley Mine, near Estevan. The mine, which started in late 1976, produced and delivered some 297 000 Mg of coal to Boundary Dam.

At the Souris Valley Mine, land reclamation is proceeding immediately following the mining. The reclamation program involves levelling spoil piles after mining and planting trees, grasses and cereal crops.

## Load Growth — Gas

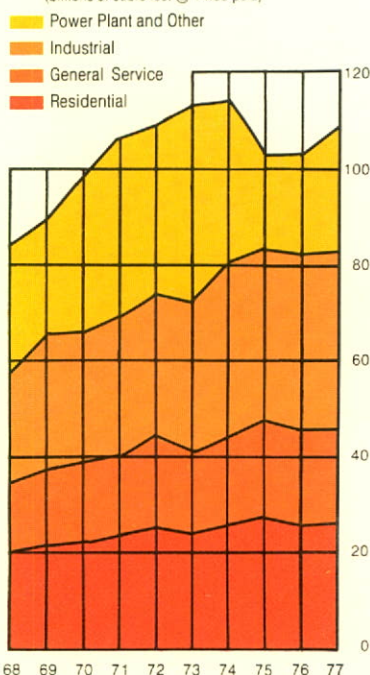
The number of customers increased by 8 663 to a total of 201 892 in 1977, December. Total gas requirement increased by 4.7 Bcf. However, 3.2 Bcf of this amount was delivered to the Corporation's power plants. Deliveries to TransCanada PipeLines Limited were reduced by 1.6 Bcf in accordance with the sales contract and offset the increased requirements of retail customers.

Gas requirements to meet the needs of residential customers were less than normal due to the mild weather experienced throughout much of the year. There is evidence of a trend toward lower average consumption which suggests that conservation measures, such as added insulation being installed by large numbers of customers are proving effective.

The maximum daily consumption of natural gas in the province reached a record 636.4 MMcf (million cubic feet) on December 9. No industrial customers were curtailed during that period. The new record was 8.2 per cent higher than the peak day in 1976.

## GAS SOLD

(billions of cubic feet @ 14.65 psia)



## Gas Supply Sources

(Billions of cubic feet at 14.65 psia)

SOURCES	1977	1976	% Increase (Decrease)
<b>ALBERTA</b>			
TransCanada PipeLines .....	50.0	36.8	35.9
Field Suppliers .....	13.4	10.7	25.2
SPC Production .....	12.8	17.3	(26.0)
Total (Alberta) .....	76.2	64.8	17.6
<b>SASKATCHEWAN</b>			
Field Suppliers .....	34.9	42.3	(17.5)
SPC Production .....	4.9	7.2	(31.9)
Total (Saskatchewan) ..	39.8	49.5	(19.6)
Total Volume Delivered .....	116.0	114.3	1.5
Storage, Fuel and other Uses .....	7.5	10.5	(28.6)
Total Sold .....	108.5	103.8	4.5



## Supply of Natural Gas

During the year, the Corporation's gas supplies were adequate to meet its needs. Its program to develop additional gas supplies to meet customer requirements in the future was continued.

The Alberta Government approved the Corporation's applications for permits to remove gas from the Saddle Lake and Esther areas. A new transmission line is being built to move gas from the Saddle Lake area to the Corporation's pipeline near Beacon Hill. That line was approximately 60 per cent complete at the end of the year. Until its completion, the Corporation will continue short-term arrangements to deliver Saddle Lake gas via the Alberta Gas Trunk Line Company's pipeline to the Corporation's facilities for delivery to Unity. Construction on the line from the Esther area is planned for mid-1978.

## Energy Conservation

While the Corporation continues to meet customer requirements for electricity and natural gas and is preparing to meet customer requirements in the future, the need to make more effective use of energy resources now requires positive action by all members of society. The Corporation has been actively promoting the wise use of energy for the past several years. This year, the Corporation stepped up its promotion of the wise use and conservation of energy resources.

Through a campaign under the slogan — Energy Conservation: It's in Your Hands — advertisements were placed in the news media and on buses and Corporation vehicles. Corporation staff presented the conservation message with the use of talks, publications and audio-visual presentations to specific groups such as residential customers, farms, businesses, industries,



Construction on a natural gas pipeline for a gathering system in the Saddle Lake area.



teachers, students and community organizations.

Corporation staff also presented information about conservation through radio and television interviews and the annual Mexabition shows in Regina and Saskatoon.

Advice on saving energy through proper lighting was provided for recreational facilities, small businesses and community buildings around the province.

### Public Safety

The Corporation intensified endeavors during 1977 to increase public awareness of the potential dangers associated with electrical and natural gas facilities. New programs, supportive literature and audio-visual materials were

produced. Contacts with public organizations, farms, schools, contractors, service clubs and other community groups were stepped up as part of the increased efforts to help the public identify potential hazards and how to avoid them.

The public accident record was again disappointing in spite of Corporation efforts to improve it. There were four fatal and 15 non-fatal accidents in 1977, all from contacts with SPC electrical facilities. These were largely farm and industrial accidents. There were 238 reported accidents where members of the public came into contact with and damaged Saskatchewan Power facilities, but did not sustain personal injuries. By comparison, in 1976 there were four fatalities and 81 reported accidents. While improved reporting accounts for some of the increase in recorded accidents, much remains to be done to reduce the number of accidents and their severity.



Energy Conservation logo and slogan at Mexabition shows in Regina and Saskatoon.



# Construction and Planning for Future Energy Needs

## Power Stations

Construction continued at an active pace on the sixth and final unit at Boundary Dam Power Station and on the new Poplar River station. The unit at Boundary Dam started generating in October and reached its full load of 300 MW in December. Construction was impeded by labor problems and boiler problems; however, by the end of the year, work was in the final stages. Contractors had only a few workers on site completing boiler, insulation and clean-up contracts. The manpower peak during 1977 reached 452 in March.

At Poplar River, principal construction activities on the powerhouse and related facilities were completion of foundation work, structural steel erection and the installation of building cladding. By the end of 1977, the main powerhouse was enclosed and

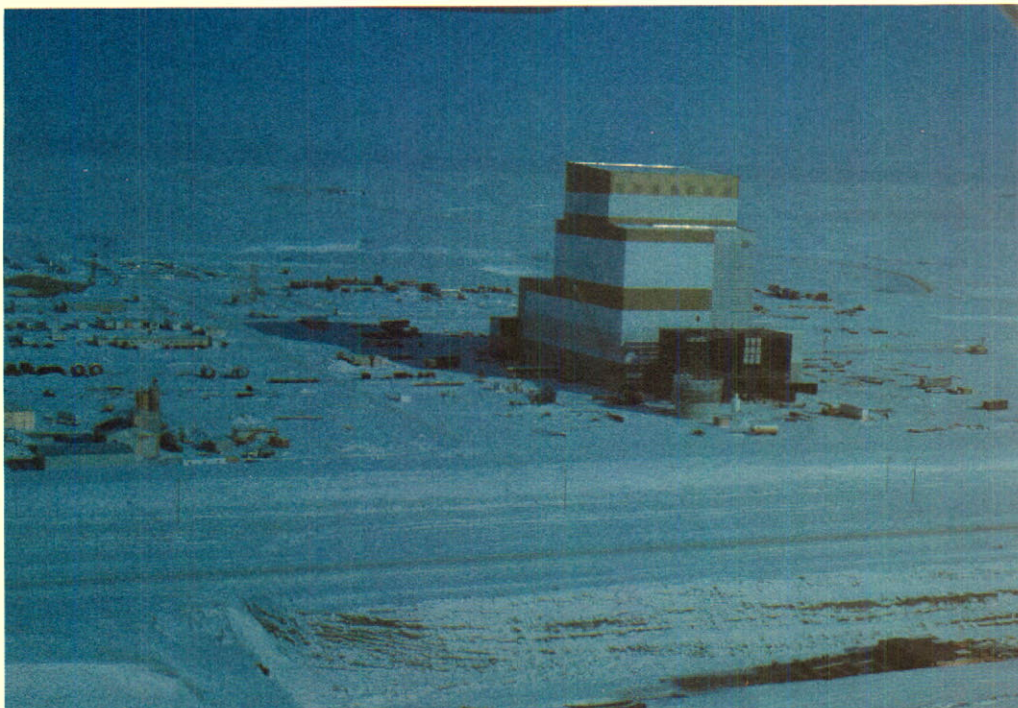
heated. Installation of the turbine-generator, boiler and associated facilities was in progress.

Construction of the dam on the East Poplar River was completed with the placement of nearly 60 000 Mg of fieldstone protection on the upstream slope of the embankment and the installation of two 7 m by 2 m radial gates in the spillway.

Official ceremonies were held at Coronach to name the dam in honor of Robert Morrison and the reservoir in honor of George Cookson. Both men were early settlers in the vicinity of the dam.

Progress on the plant coal handling system included completion of earthwork and the start on foundation work for the railway loop and unloading tressel.

The work force on the power project reached a peak of 307 late in the year.



Poplar River Power Station under construction near Coronach.



## Switching Stations

To move Unit 6 power from Boundary Dam, switching stations were expanded at Boundary Dam, Condie and Wolverine; a new station was built at Kennedy, and work was started on stations at Fleet Street (Regina) and Regina South station.

A new switching station was energized at Assiniboia to meet voltage requirements in that area and work was started on an expansion to that station to accommodate the movement of power from the Poplar River Power Station starting in 1979.

## Transmission Lines

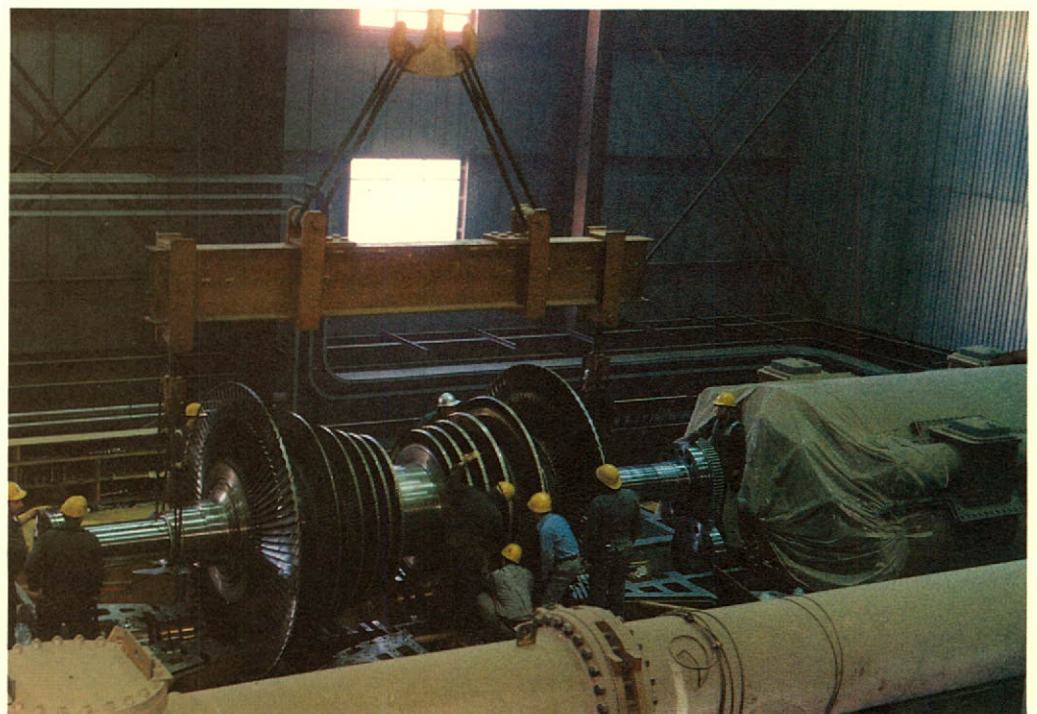
As a result of the addition to BDPS, expansion and upgrading of associated transmission lines was also necessary. The 120 km transmission line between BDPS and Kennedy was upgraded from 138 kV to 230 kV; 180 km of a new 230 kV line was built between Kennedy and Condie Switching Stations, and 169 km of a 230 kV

line (temporarily operating at 138 kV) was built between Condie and Wolverine stations.

In 1977, an eight-kilometre section of 138 kV line was also constructed near the Queen Elizabeth Power Station. This allows a second circuit of 138 kV to be added to the Queen Elizabeth to North Battleford line. Stringing of this second circuit was near completion at the end of the year.

## Inter-System Ties

Negotiations were completed in 1977 for construction of a third inter-tie with Manitoba Hydro. The tie will extend from Squaw Rapids to The Pas. The agreement had not yet been signed at the end of the year. A study was also undertaken with Basin Électrique in the United States for a possible tie between Boundary Dam and Tioga in North Dakota. The seasonal diversity between the two systems will provide the basis for a beneficial interchange of power between the utilities.



Installing low pressure turbine spindle for No. 6 turbine-generator at Boundary Dam Power Station.



## Coal Mines

Deliveries of material began in February for the large walking dragline at Poplar River. Erection of the 69 m<sup>3</sup> (cubic metres) bucket and 110 m boom machine is expected to take about 18 months. Start-up of the dragline is scheduled for mid-summer 1978 with the opening of the mine near that station.

Deliveries of material and erection also started on a similar dragline at Estevan. Erection of this second machine is expected to be completed early in 1979.

Over the long term, coal deposits in the Estevan area, which can be more suitably mined using smaller equipment, will be handled by the Souris Valley Mine operation.

## Gas Storage Facilities

The Corporation continued to develop gas storage facilities to handle increasing peak demands.

Two additional storage caverns, which are currently being solution-mined at the Regina cavern site, will bring the total usable storage at Regina to more than 3 Bcf.

The Corporation injected an additional 2.2 Bcf of gas into the

East Cantuar storage reservoir bringing the total injected to 10.1 Bcf.

By the end of 1977, the Corporation's storage facilities were capable of producing up to 220 MMcf per day or about 35 per cent of the requirements of a peak day.

## Long Term Gas Supply

The Corporation continued its program to acquire, explore for and develop natural gas reserves in Alberta and Saskatchewan with a view to securing a sufficient gas supply for provincial needs over the long term.

Since 1972, the program has cost \$75.5 million and added approximately 796 Bcf to reserves owned by the Corporation and 322 Bcf to the reserves that the Corporation has first rights to purchase.

At the end of the year, the Corporation had access to, through ownership or by contract, 2 621 Bcf of gas, of which 1 398 Bcf were located in Alberta and 1 223 Bcf in Saskatchewan. At 1977 rates of consumption, reserves owned and available for purchase, combined with reserves under contract from other suppliers, will meet the Corporation's requirements for 24 years.



Ashmont compressor station, 130 km west of Beacon Hill, compresses gas from Sugden field in Alberta for delivery to SPC system.



## Research and Development

The Corporation's research and development staff was involved in about 50 projects related to general energy research, conservation and utilization, electrical generation, transmission and distribution, and gas transmission and distribution.

The Corporation was awarded several research contracts and grants by the Federal Department of Energy, Mines and Resources; the National Research Council and the Canadian Electrical Association.

### Electric Home Heating

An experimental project on electric heating in homes was started in the community of Coronach. Possible methods of saving energy and reducing electrical demand will be evaluated.

The study will include six types of electric heat in groups of five houses of each type. Two of the types of electric heat are the SPC off-peak and peak shaving furnaces. For peak reduction, experimental work will be done with an A.M. radio load control method developed by Ontario Hydro. This three-year project is supported by the Canadian Electrical Association.

### Coal Conversion Technology

A techno-economic study was completed on the production,

transmission and industrial utilization of medium Btu gas and a natural gas substitute from Saskatchewan lignite coal.

In another study, advanced power generation techniques are being examined with a view to reducing water requirements and lessening thermal plant impact on air and water.

Both studies are being supported by the Federal Department of Energy, Mines and Resources.

### Transmission Line Tap-Off

A new technique has been developed to tap high voltage transmission lines to serve customers who are along the route of the lines and whose power requirements are small. Such taps are normally very expensive.

The new technique utilizes capacitors to significantly reduce the voltage applied to the transformer, enabling the use of conventional distribution transformers.

This technique will make possible the conversion of some northern distribution lines to higher voltage permitting transmission of more power over existing lines.

This project is supported by the Canadian Electrical Association.

Installation of radiant heating element as part of electric heating study in Coronach house.





# Finance and Administration

## Net Income

Consolidated net income increased by 9.2 per cent to \$22.3 million for 1977.

Following two years of losses in the electric operation, a profit of \$5.5 million was recorded for the year. The operation of the Corporation's northern subsidiary resulted in a loss of \$728 000 which was again covered by a subsidy from the Corporation.

Net income from the Gas System was \$16.8 million. The use of 14.6 Bcf of gas by the Electric System to generate electricity that normally would have come from hydro stations accounted for \$7.2 million of the reported net income.

## Revenue and Rates

Further increases in natural gas costs and in virtually all other costs made it necessary again to raise prices to customers for both electricity and natural gas. Rate increases averaging 17 per cent to electric customers and 18 per cent for natural gas customers were introduced effective August 15. For the average residential customer, the increase in the monthly electricity bill was \$2.80 and for gas it was \$3.65. These increases, together with increases which became effective January 1 for industrial and street light customers, added approximately \$11.8 million to electric revenues and \$12.4 million to gas revenues for 1977. Gas revenues were further bolstered by approximately \$1.6 million from retroactive price increases on gas sold during 1975 and 1976.

## Expenses

Fuel costs for the generation of electricity increased by \$12.1 million and the cost of energy imported from Manitoba Hydro was higher by \$1.7 million over comparable figures for 1976. Of these higher costs, approximately \$5.8 million is attributable to increases in prices paid for coal and natural gas. The increased amount of energy required by customers plus the fact that gas and Alberta coal had to be used to provide the energy that would have come from hydro generation in a year of normal river flows account for the major portion of the increase.

Gas costs increased by \$23.3 million even though volumes sold were only marginally higher than in 1976. The 76.2 Bcf of gas imported from Alberta cost \$19.1 million more than it would have at the prices which prevailed in 1976.

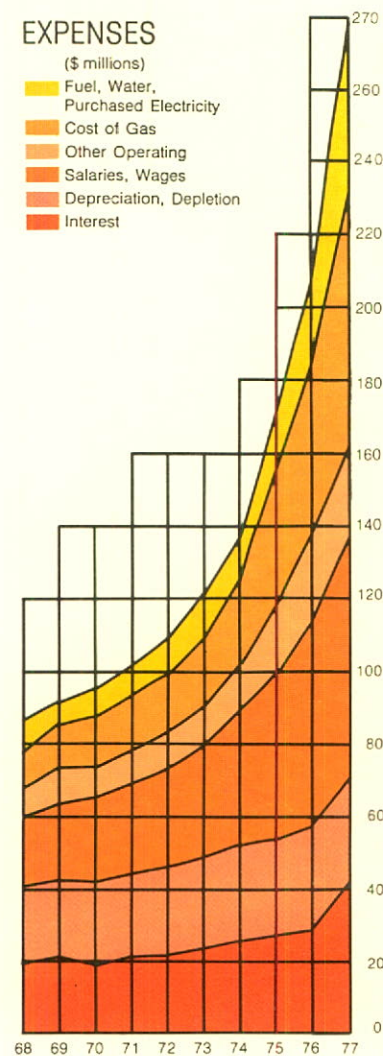
Wages, salaries and related benefits advanced by \$8.8 million to \$65.8 million for 1977, reflecting the higher wage and salary rates, plus an increase of 62 in the average number of employees. The Corporation's provisions for pension benefits amounted to 12.8 per cent of payroll, a rate calculated by the Corporation's actuaries to be adequate to meet future pension obligations.

Grants-in-lieu of taxes calculated as a percentage of revenue, are a very significant contributor to rising costs. The total cost of such grants paid to cities and towns increased from \$4.6 million in 1976 to \$5.6 million in 1977.

While not a cost to the Corporation, surcharges collected on electricity bills at the request of



### EXPENSES

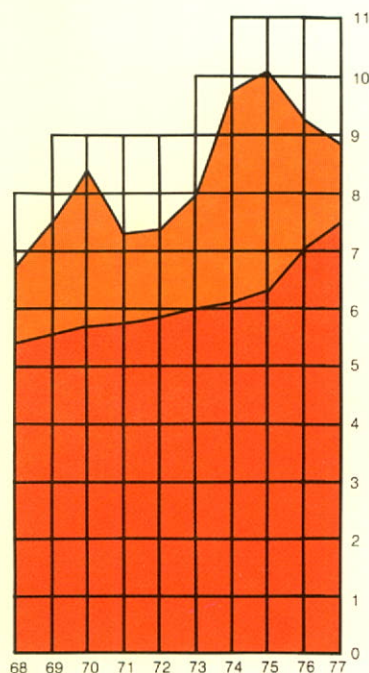
- (\$ millions)
- Fuel, Water, Purchased Electricity
  - Cost of Gas
  - Other Operating
  - Salaries, Wages
  - Depreciation, Depletion
  - Interest





## EFFECTIVE RATES OF INTEREST

(percentage)  
 New Debt  
 Total Debt



cities, towns and villages are also based on revenue and are adding to the higher costs being borne by customers. Surcharges collected from customers increased from \$4.5 million in 1976 to \$5.5 million in 1977.

Depreciation and interest expense increased by \$760 000 per month with the capitalization of Unit 6 at Boundary Dam Power Station. While the impact on 1977 was for only one month, there will be a full year's charge recorded in 1978.

The decline in the value of the Canadian dollar, relative to the United States dollar added approximately \$2.1 million to interest payments made in 1977. In addition, it created a high future obligation for which an annual provision has to be made, commencing immediately. In all, 1977 interest costs were increased by \$5.7 million as a result of the Canadian dollar's decline in value.

## Capital Program

Capital expenditures on new plant and equipment were again at record levels. The largest expenditures were made on the sixth generating unit at Boundary Dam Power Station and the first unit at Poplar River Power Station. Transmission lines, switching stations and draglines directly associated with these additions to generation capacity also required significant expenditures.

The Gas program was much smaller than the Electric program. However, approximately \$19.7 million was expended in the

development of resources and construction of facilities to meet future needs of customers.

Expenditures by major category were as follows:

	1977 (\$ million)	1976
<b>Electric Capital Expenditures</b>		
Generation . . . . .	109.8	76.8
Transmission . . . .	19.3	12.3
Distribution . . . . .	17.3	17.1
	<u>146.4</u>	<u>106.2</u>
<b>Gas Capital Expenditures</b>		
Exploration and Production . . . . .	7.9	26.0
Gathering, Treatment and Compression . . . . .	3.2	1.7
Transmission and Storage . . . . .	1.8	3.0
Distribution . . . . .	6.8	6.9
	<u>19.7</u>	<u>37.6</u>
General Plant . . . . .	1.5	1.8
	<u>167.6</u>	<u>145.6</u>

## External Financing

The Province borrowed and advanced to the Corporation \$126.8 million to finance Capital Construction during 1977. A further \$44.5 million was borrowed from the Chemical Bank of New York on a short-term arrangement extending to 1979.

Advances from the Province included \$49.3 million borrowed in the Canadian market in February for a term of 25 years. The balance, \$77.5 million, was borrowed in the United States for a 30-year term. The average cost to the Cor-



poration of advances received during 1977 was 9.13 per cent for Canadian pay borrowings and 8.68 per cent for obligations repayable in United States dollars. Foreign exchange costs add to the effective cost of the funds raised in the United States.

## **Labor Contracts**

Negotiations for revised collective bargaining agreements with both the International Brotherhood of Electrical Workers (IBEW), Local 2067, and the Oil, Chemical and Atomic Workers (OCAW), Local 9-649, were in progress at the beginning of 1977.

An agreement with IBEW was signed January 20 and was approved by the Saskatchewan Public Sector Price and Compensation Board March 18. The agreement provided for a general wage increase of 8.5 per cent, plus an additional 0.33 per cent for fringe benefits.

An agreement was signed with OCAW February 2 and was approved by the Price and Compensation Board March 18. The agreement provided for a general wage increase of 8.0 per cent, plus an additional 0.88 per cent for fringe benefits.

## **Employee Safety and Training**

Over the past few years, some deterioration in the employee safety record has occurred. In a renewed effort to deal with this problem, management and the unions co-operated in conducting safety audits during the year in various areas of the electric and gas operations. Where safety hazards were identified, corrective action was taken. This greater

emphasis on employee safety will be continued.

During 1977, a concerted drive was initiated to update all field employees on first aid, defensive driving, pole-top rescue and safe operation and operator maintenance of vehicles and heavy equipment.

Employee accident statistics showed no noticeable improvement over 1976. There were 176 vehicle accidents (171 in 1976), 196 medical aid accidents (194 in 1976) and lost time accidents numbered 94 (98 in 1976).

Throughout the year, a greater number of employees were involved in various types of training. Almost 700 employees attended electric and gas trades courses, and other seminars and workshops for 6 463 man days. Management training classes were attended by a further 122 employees for 479 man days.

Emphasis was placed on involving field employees and mixing management and union staff in some programs to more effectively develop human resources and improve staff participation. Greater emphasis was also placed on on-the-job training.

## **Awards and Retirements**

Retirement banquets were held for 23 retirees in various parts of the province.

Long-service Awards' functions were held to honor employees who attained 35, 30, 25 and 20 years of service in 1977. These included 21 employees honored for 35 years of service, 28 for 30 years of service, 59 for 25 years of service and 185 for 20 years of service.



## FINANCIAL RESULTS 1977

SASKATCHEWAN POWER CORPORATION  
and wholly-owned subsidiaries

*North-Sask Electric Ltd. — operates electric generating plants and distribution systems at various locations in the northern part of the province.*

*Many Islands Pipe Lines Limited — gathers, produces and purchases gas in Alberta for the use of the Corporation.*

*Many Islands Pipe Lines (Canada) Limited — transports gas through its interprovincial transmission line from an Alberta Gas Trunk Line Ltd. metering station west of the Alberta-Saskatchewan border to the Saskatchewan Power Corporation facilities at Unity, Saskatchewan.*

*Consumers Oil Limited — engages in gas exploration, development and production in western Canada.*



## Consolidated Statement of Income and Retained Income

	1977 (000's)	1976 (000's)
<b>INCOME</b>		
Electricity sales. . . . .	\$156 728	\$126 192
Gas sales (Note 2) . . . . .	125 192	98 318
Other . . . . .	8 395	3 962
	<u>290 315</u>	<u>228 472</u>
<b>OPERATING EXPENSES</b>		
Fuel, water, and purchased electricity . . . . .	37 218	23 405
Produced and purchased cost of gas sold (Note 3). . . . .	69 452	46 117
Other operating, maintenance and administration (Note 4) .	88 553	80 624
Depreciation and depletion (Note 5). . . . .	30 501	29 397
	<u>225 724</u>	<u>179 543</u>
Net income before interest expense . . . . .	64 591	48 929
<b>INTEREST EXPENSE</b>		
Long-term debt (Note 7) . . . . .	54 188	32 478
Other . . . . .	2 402	4 439
Capitalized (Note 7). . . . .	(14 337)	(8 449)
	<u>42 253</u>	<u>28 468</u>
<b>NET INCOME</b> . . . . .	22 338	20 461
Retained income at beginning of year . . . . .	174 582	164 321
Income appropriated to Rate Stabilization Reserve . . . . .	(6 000)	—
Income transferred to Province of Saskatchewan. . . . .	(8 200)	(10 200)
<b>UNAPPROPRIATED RETAINED INCOME</b> at end of year . .	<u>\$182 720</u>	<u>\$174 582</u>

See major accounting policies and notes

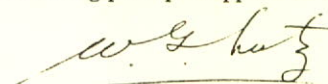
### Auditor's Report

To the Members of the Legislative Assembly,  
Province of Saskatchewan

I have examined the consolidated balance sheet of Saskatchewan Power Corporation and its wholly-owned subsidiaries as at 1977, December 31, and the consolidated statements of income and retained income and changes in financial position for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these consolidated financial statements present fairly the financial position of Saskatchewan Power Corporation and its wholly-owned subsidiaries as at 1977, December 31, and the results of their operations and changes in financial position for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Regina, Saskatchewan  
1978, March 15

  
W. G. Lutz, C.A.,  
Provincial Auditor.



## Consolidated Statement of Changes In Financial Position

Year Ended December 31

	1977 (000's)	1976 (000's)
<b>SOURCE OF FUNDS</b>		
Net Income .....	\$ 22 338	\$ 20 461
Add Transactions not requiring cash:		
Depreciation and depletion .....	30 501	29 397
Other .....	1 909	(1 701)
	<u>54 748</u>	<u>48 157</u>
Contributed surplus and revenue prepayments .....	7 100	6 391
Advances from Province of Saskatchewan .....	126 751	195 715
Bank term loan .....	44 505	—
	<u>233 104</u>	<u>250 263</u>
<b>APPLICATION OF FUNDS</b>		
Expenditures on plant and equipment .....	167 607	145 634
Repayment of long-term debt .....	30 313	33 295
Income transferred to Province of Saskatchewan .....	8 200	10 200
Net change in other items .....	340	742
	<u>206 460</u>	<u>189 871</u>
<b>INCREASE IN WORKING CAPITAL .....</b>	<u>26 644</u>	<u>60 392</u>
<b>CHANGES IN COMPONENTS OF WORKING CAPITAL</b>		
Increase (decrease) in current assets		
Short-term investments .....	21 313	4 637
Accounts receivable .....	11 149	8 817
Inventories and prepaid expenses .....	879	843
	<u>33 341</u>	<u>14 297</u>
Increase (decrease) in current liabilities		
Bank loan and short-term financing .....	3 775	(66 834)
Accounts payable and accrued liabilities .....	2 922	20 739
	<u>6 697</u>	<u>(46 095)</u>
<b>INCREASE IN WORKING CAPITAL .....</b>	<u>\$ 26 644</u>	<u>\$ 60 392</u>

See major accounting policies and notes



# Consolidated Balance Sheet

At December 31

ASSETS	1977 (000's)	1976 (000's) Restated
<b>CURRENT ASSETS</b>		
Short-term investments .....	\$ 26 300	\$ 4 987
Accounts receivable — Customers .....	24 963	18 747
— Unbilled sales .....	27 446	19 986
— Other .....	6 568	9 095
Inventories at cost .....	13 818	16 741
Gas in storage at cost .....	6 801	3 030
Prepaid expenses .....	1 291	1 260
	<u>107 187</u>	<u>73 846</u>
OTHER ASSETS (Note 8) .....	<u>5 379</u>	<u>4 139</u>
<b>UTILITY PLANT</b>		
Plant in service at cost (Note 6) .....	1 156 868	995 952
Less: Accumulated depreciation and depletion .....	<u>350 012</u>	<u>322 310</u>
	806 856	673 642
Construction work in progress .....	<u>157 341</u>	<u>153 785</u>
	<u>964 197</u>	<u>827 427</u>
	<u>1 076 763</u>	<u>905 412</u>
<b>LIABILITIES</b>		
<b>CURRENT LIABILITIES</b>		
Bank loan .....	7 135	3 360
Income payable to the Province .....	8 200	10 200
Accounts payable .....	39 179	31 144
Interest accrued .....	17 363	14 030
Long-term debt due within one year .....	<u>18 124</u>	<u>24 570</u>
	<u>90 001</u>	<u>83 304</u>
CUSTOMER DEPOSITS .....	<u>5 364</u>	<u>4 961</u>
<b>DEFERRED INCOME ITEMS</b>		
Unamortized debt costs and gains (Note 9) .....	(1 060)	1 389
Unamortized revenue prepayments .....	<u>15 337</u>	<u>13 281</u>
	<u>14 277</u>	<u>14 670</u>
<b>COMMITMENTS AND CONTINGENT LIABILITIES</b> (Note 10)		
LONG-TERM DEBT NET OF SINKING FUNDS (Note 12) ..	<u>719 232</u>	<u>572 683</u>
<b>PROVINCE'S EQUITY</b>		
Contributed surplus .....	59 169	55 212
Rate Stabilization Reserve — appropriated from retained income .....	6 000	—
Unappropriated retained income .....	<u>182 720</u>	<u>174 582</u>
	<u>247 889</u>	<u>229 794</u>
	<u>\$1 076 763</u>	<u>\$905 412</u>

See major accounting policies and notes



## Major Accounting Policies

**Consolidation** — The consolidated financial statements include the financial position and operating results of the four wholly-owned subsidiaries of the Saskatchewan Power Corporation.

**Fixed Assets** — Fixed assets include electricity and gas supply facilities (generation, production, transmission and distribution) and general plant (buildings, office and service equipment). Cost includes direct material and labor and overhead costs such as engineering and administration that are considered applicable to the capital construction program. Interest on funds used during construction is capitalized at the weighted average interest rate on current year long-term and short-term borrowings.

The cost of additions to and replacement of fixed assets is capitalized when service life is extended. The cost of fixed assets retired, less the proceeds of sale, is charged to accumulated depreciation. When the complete asset unit is retired a gain or loss is recognized.

**Depreciation** — Depreciation is calculated on a straight-line estimated service life basis for the various classes of property except for gas production and gathering systems for which the unit-of-production method is used. Estimated service lives of the major assets are as follows:

### Electric System

#### Generation

Hydro-electric.....	50 years
Thermal.....	30 years

#### Transmission

Lines.....	40 years
Switching stations.....	30 years

#### Distribution

Oil fields.....	20 years
Rural and urban overhead.....	30 years

### Gas System

Transmission lines.....	28 years
Distribution systems.....	25-40 years

**Gas and Coal Exploration Costs** — The Corporation follows the full cost method of accounting for the acquisition cost of gas and coal in place and exploration and development costs. All costs of land acquisition, geological and geophysical expenditures, rentals on undeveloped properties, costs of drilling, productive and non-productive wells, overhead related to exploration activities and interest are capitalized and form part of plant in service.

**Customer Capital Contributions and Revenue Prepayments** — Capital contributions are required from those customers from whom estimated revenue will indefinitely and beyond the estimated life of the facilities required to serve such customers, be no greater than the estimated cost, taking into consideration the capital contribution received, of providing such service. Capital contributions are classified as Contributed Surplus on the Corporation's Balance Sheet.

Non-refundable revenue prepayments are required from customers in those instances where estimated revenues to be received from such customers will be deficient for a part of the estimated life of the facilities required to serve such customers. Revenue prepayments are amortized into income over an appropriate period.

**Depletion of Gas and Coal Properties** — Depletion of gas and coal properties is calculated using the composite unit-of-production method based on estimated remaining recoverable gas and coal reserves and the unamortized costs of these reserves.

**Foreign Exchange on Long-Term Debt** — All long-term liabilities payable in foreign currencies are recorded in Canadian dollar equivalents at time of issue. Subsequent translation losses or gains are amortized to income over the remaining term of each obligation.

**Amortization of Debt Costs and Gains** — Unamortized debt discounts and expenses applicable to advances received from the Province of Saskatchewan are charged to income in equal annual amounts over the period to the maturity or early maturity option, where applicable, of the debt.

From time to time, the Province of Saskatchewan cancels, before the maturity thereof, Province of Saskatchewan debentures held as investments in sinking funds for the repayment of such debentures. Advances from the Province to the Corporation which were initially financed by the cancelled securities are repaid and the difference between the book value and par value of the cancelled debentures is amortized into income on a yield basis over the remaining term of the debentures cancelled.



**Superannuation** — The Corporation's financial obligations for the superannuation of its employees are legislated in Section 35 and 36 of the Power Corporation Superannuation Act and Section 42 of the Superannuation (Supplementary Provisions) Act, 1977.

The Corporation meets its obligation under the Power Corporation Superannuation Act for employee superannuation allowances payable in the future by making regular payments to the Power Corporation Superannuation Fund equal to the annual charges against income for such allowances. The charges against income are

calculated at the actuarially determined rate necessary to provide for future superannuation benefits over the remaining working lives of the employees. Actuarial valuations are carried out approximately every three years.

The Corporation meets its obligations under the Superannuation (Supplementary Provisions) Act by making regular payments to the Public Employees (Government Contributory) Superannuation Plan and charges against income equal to the employer contribution required under the provisions of the Act.

## Notes to the Financial Statements

1. The 1976 Balance Sheet has been restated to reflect comparatively, the reclassification of certain expenditures (\$2 962 000) from Prepaid Expense to Other Assets to reflect their change from a current to a non-current asset status, and the reclassification of an investment in a joint venture (\$1 037 000) from Other Assets to Plant in Service to reflect the accounting for it on a proportionate consolidation basis.
2. Income from 1977 gas sales includes \$1 579 000 which resulted from a retroactive increase in contract prices for gas sold in 1975 and 1976.
3. In 1969, the Corporation entered into an agreement for the purchase of gas by TransCanada PipeLines (TCPL) over a 5½ year period. The agreement provides for the return to the Corporation of a like amount at the same price. On application by TCPL, the National Energy Board (NEB) ruled in 1976, that the Saskatchewan Zone Price set by NEB would apply to gas delivered by TCPL to the Corporation under the terms of the agreement. The Corporation unsuccessfully appealed the NEB ruling to the Federal Court. The Corporation has obtained leave to appeal the

ruling of the Federal Court to the Supreme Court of Canada. In a separate action, the Corporation has appealed a 1976 ruling by NEB that effective 1976, November 1, the price to be paid by the Corporation for gas returned by TCPL under the same agreement would be that price established by agreement between the Alberta and Federal Governments. Delivery of gas to the Corporation started in 1976, November. The Corporation is paying the higher price under protest. The additional payments, recorded as cost of gas, were \$15.2 million in 1977 and \$2.8 million in 1976.

4. The charge against income and payments to the Power Corporation Superannuation Fund and the Public Employees (Government Contributory) Superannuation Plan for employees' future superannuation benefits was \$6 085 000 in 1977 (\$4 973 000 in 1976).
5. Depreciation and Depletion (000's)

	1977	1976
Depreciation.....	\$29 470	\$28 178
Depletion .....	1 357	1 446
Capitalized .....	(326)	(227)
	<u>\$30 501</u>	<u>\$29 397</u>



6. Utility Plant in Service (000's)

	Cost	Accumulated Depreciation and Depletion	1977 Net	1976 Net
Electric				
Generation.....	\$ 378 594	\$ 95 057	\$283 537	\$208 824
Transmission.....	137 403	40 931	96 472	81 342
Distribution .....	259 520	90 671	168 849	159 616
	<u>775 517</u>	<u>226 659</u>	<u>548 858</u>	<u>449 782</u>
Gas				
Production.....	105 168	22 224	82 944	51 571
Gathering, Treatment & Compression .	39 968	20 193	19 775	19 642
Transmission & Storage.....	98 881	31 425	67 456	69 306
Distribution .....	96 679	30 230	66 449	62 106
	<u>340 696</u>	<u>104 072</u>	<u>236 624</u>	<u>202 625</u>
General Plant.....	40 655	19 281	21 374	21 235
	<u>\$1 156 868</u>	<u>\$350 012</u>	<u>\$806 856</u>	<u>\$673 642</u>

7. Interest on Long-Term Debt (000's)

	1977	1976
Interest paid and accrued .....	\$62 778	\$42 077
Amortization of debt costs and gains:		
Debt discount and expense.....	730	666
Gain on early repayment of debt	(1 249)	(1 307)
Foreign exchange provision.....	3 676	(155)
Sinking fund earnings .....	(11 747)	(8 803)
	<u>\$54 188</u>	<u>\$32 478</u>

Interest was capitalized on construction projects at a rate of 9.25% in 1977 and 9.5% in 1976.

8. Other Assets (000's)

	1977	1976
Prepaid gas purchases ..	\$3 372	\$2 386
Deferred mining costs ..	612	576
Farm loans .....	501	548
Other.....	894	629
	<u>\$5 379</u>	<u>\$4 139</u>

9. Unamortized Debt Costs and Gains (000's)

	1977	1976
Unamortized gains arising from the early repayment of long-term debt.....	\$ 6 470	\$ 7 718
Less unamortized debt discounts and expenses applicable to advances received from the Province of Saskatchewan.....	<u>7 530</u>	<u>6 329</u>
	<u>\$ (1 060)</u>	<u>\$ 1 389</u>

10. Commitments and Contingencies

At 1977, December 31, the Corporation was committed in the amount of approximately \$53.5 million (\$86.0 million in 1976) for materials, equipment, and services on contracts not completed at year-end.

11. While the Corporation did not come under the Federal Government's anti-inflation program, it did operate under terms similar to those contained in the legislation as administered by the Saskatchewan Public Sector Price and Compensation Board. The controls do not apply after 1977, December 31.



## 12. Long-Term Debt (\$000's)

### Advances from Province of Saskatchewan

Year Received	Year Repayable	Interest Rate	Face Amount In Foreign Currency (1)	Debt Recorded	Equity in Sinking Fund
1968	1978	5½-6½		\$ 3 325 (2)	\$ 1 155
1959	1979	5 -5¾		9 650	6 726
1961	1979	5¾		4 978	2 994
1960	1980	5 -6		14 634	8 196
1961	1981	5 -5½		8 534	4 213
1962	1982	5 1/8-5½		24 690	8 717
1963	1982	5¼		9 703	3 197
1958	1983	4 1/8	11 820	12 100	9 974
1963	1983	5 -5¼	18 355	21 344	8 426
1959	1984	4¾-5	19 591	19 993	14 002
1964	1984	5¼-5½		3 429	560
1964	1985	5½		7 516	2 250
1965	1985	5½		2 140	—
1966	1986	5 7/8-6¼		13 820	2 785
1976	1986	8¾	75 000	74 381	—
1966-67	1986-87	5¼-5½		13 033 (3)	5 197
1967	1987	6		7 895	1 848
1967-68	1987-88	5¼-6½		9 752 (3)	3 394
1968	1988	7¼		12 979	2 862
1968-69	1988-89	6½-7¼		27 908 (3)	7 813
1969	1989	7 5/8	13 050	13 816	2 323
1969-70	1989-90	7¼-8½		32 907 (3)	7 490
1965	1990	4 7/8	3 625	3 882	1 197
1970	1990	8¾		15 000	3 769
1970-71	1990-91	6¾-8¼		33 062 (3)	5 929
1961	1991	5¾		3 000	2 183
1971-72	1991-92	6¾-7½		27 613 (3)	3 800
1972-73	1992-93	7 -7½		23 189 (3)	2 157
1973-74	1993-94	7½		6 297 (3)	439
1964	1994	5½		4 151	837
1973	1998	7¾-8¼		40 000	1 922
1974	1999	10		20 000	928
1975	2000	9 7/8		40 000 (4)	639
1976	2001	10¼		50 000	349
1977	2002	9		50 000	—
1976	2006	8 7/10	75 000	74 630	524
1977	2007	8 5/8	75 000	78 751	—
				<u>\$818 102</u>	<u>\$128 795</u>
Other Long-Term Debt					
Chemical Bank of New York — Term Loan .....			42 000	44 939 (5)	
City of Regina — This is the present value, on the basis of 5½% interest rate, of estimated payments yet to be made to the City for its electrical system. Final payments are expected to be made in 1983. ....				2 786	
City of Weyburn — This is the outstanding portion of the \$2 million purchase price for the City's electrical system. Semi-annual payments with interest at 5½% will retire the liability in 1979. ....				311	
Royal Bank of Canada Mortgages — 6% first mortgages on houses in Estevan. ....				13	
				<u>\$866 151</u>	<u>\$128 795</u>
Long-Term Debt — net of sinking fund .....					737 356
Amounts due within one year .....					18 124
					<u>\$719 232</u>

(1) United States dollars.

(2) Advances totalling \$3 325 300 are subject to redemption on demand.

(3) Advances totalling \$173 761 000 with an original term of 20 years are subject to redemption on six months notice.

(4) Retractable at holder's option to 1983.

(5) This loan is repayable in 1979, September.

(6) If long-term debt in foreign exchange currency were translated at exchange rates prevailing at 1977, December 31, the liability would be increased by \$21 802 000.

(7) Debt repayments and sinking fund installments on outstanding debt for the next five years are as follows: (000's)

1978 — \$18 124; 1979 — \$64 538; 1980 — \$18 576; 1981 — \$16 688; 1982 — \$27 815

# Financial Statistics (000's)

CONSOLIDATED INCOME	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968
<b>ELECTRIC SYSTEM</b>										
Sales (1) .....	\$ 156 964	\$126 379	\$100 943	\$ 90 127	\$ 86 329	\$ 79 246	\$ 76 169	\$ 72 387	\$ 67 020	\$ 62 538
Other .....	6 249	1 951	1 488	1 714	1 559	1 242	1 177	1 136	1 069	1 035
	<u>163 213</u>	<u>128 330</u>	<u>102 431</u>	<u>91 841</u>	<u>87 888</u>	<u>80 488</u>	<u>77 346</u>	<u>73 523</u>	<u>68 089</u>	<u>63 573</u>
Fuel, water, and purchased electricity .....	44 660	30 308	19 347	12 427	13 161	8 963	7 905	7 577	6 004	8 214
Other operating, maintenance and administration .....	61 014	56 671	46 088	34 650	28 370	26 186	23 522	21 696	20 546	17 742
Depreciation and depletion .....	22 057	20 865	19 971	19 350	18 334	17 123	16 537	15 970	15 590	15 252
Interest and other debt costs — net .....	30 008	21 054	20 294	19 857	18 065	16 700	16 103	14 614	15 493	13 549
	<u>157 739</u>	<u>128 898</u>	<u>105 700</u>	<u>86 284</u>	<u>77 930</u>	<u>68 972</u>	<u>64 067</u>	<u>59 857</u>	<u>57 633</u>	<u>54 757</u>
Net income .....	<u>5 474</u>	<u>(568)</u>	<u>(3 269)</u>	<u>5 557</u>	<u>9 958</u>	<u>11 516</u>	<u>13 279</u>	<u>13 666</u>	<u>10 456</u>	<u>8 816</u>
<b>GAS SYSTEM</b>										
Sales (1) .....	143 162	110 550	75 353	55 352	49 345	47 972	45 223	42 306	38 760	36 140
Other .....	2 146	2 011	1 494	1 821	1 275	1 022	999	809	894	731
	<u>145 308</u>	<u>112 561</u>	<u>76 847</u>	<u>57 173</u>	<u>50 620</u>	<u>48 994</u>	<u>46 222</u>	<u>43 115</u>	<u>39 654</u>	<u>36 871</u>
Produced and purchased cost of gas sold .....	80 216	51 633	34 142	22 696	18 459	16 579	15 524	13 152	11 613	10 319
Other operating, maintenance and administration .....	27 539	23 953	18 372	14 612	11 927	10 549	9 922	9 773	9 352	8 322
Depreciation and depletion .....	8 444	8 532	7 685	7 607	7 149	7 275	6 844	6 933	6 347	6 246
Interest and other debt costs — net .....	12 245	7 414	6 127	6 079	5 714	5 203	5 117	4 796	5 767	5 883
	<u>128 444</u>	<u>91 532</u>	<u>66 326</u>	<u>50 994</u>	<u>43 249</u>	<u>39 606</u>	<u>37 407</u>	<u>34 654</u>	<u>33 079</u>	<u>30 770</u>
Net income .....	<u>16 864</u>	<u>21 029</u>	<u>10 521</u>	<u>6 179</u>	<u>7 371</u>	<u>9 388</u>	<u>8 815</u>	<u>8 461</u>	<u>6 575</u>	<u>6 101</u>
Consolidated Net Income .....	<u>22 338</u>	<u>20 461</u>	<u>7 252</u>	<u>11 736</u>	<u>17 329</u>	<u>20 904</u>	<u>22 094</u>	<u>22 127</u>	<u>17 031</u>	<u>14 917</u>
<b>CONSOLIDATED STATEMENT OF CHANGES IN FINANCIAL POSITION</b>										
<b>SOURCE OF FUNDS</b>										
Funds from operations .....	54 748	48 157	36 708	39 613	42 191	44 496	44 610	44 645	40 247	37 415
Contributed surplus and revenue prepayments .....	7 100	6 391	6 311	3 237	3 065	1 877	1 732	1 307	1 488	1 712
Long-term debt .....	171 256	195 715	39 550	23 517	44 490	27 714	28 624	47 870	45 016	50 603
Other .....	(340)	(742)	(1 415)	707	297	(16)	(194)	(2 795)	8 216	911
	<u>232 764</u>	<u>249 521</u>	<u>81 154</u>	<u>67 074</u>	<u>90 043</u>	<u>74 071</u>	<u>74 772</u>	<u>91 027</u>	<u>94 967</u>	<u>90 641</u>
<b>APPLICATION OF FUNDS</b>										
Expenditures on plant and equipment .....	167 607	145 634	98 010	56 675	38 779	40 534	34 392	36 812	28 487	38 639
Repayment of long-term debt .....	30 313	33 295	29 371	31 362	21 249	27 168	25 336	32 730	48 494	59 573
Income transferred to the Province of Saskatchewan .....	11 200	10 200	3 600	—	—	20 900	—	10 400	8 100	3 500
	<u>209 120</u>	<u>189 129</u>	<u>130 981</u>	<u>88 037</u>	<u>60 028</u>	<u>88 602</u>	<u>59 728</u>	<u>79 942</u>	<u>85 081</u>	<u>101 712</u>
Increase (decrease) in working capital .....	<u>23 644</u>	<u>60 392</u>	<u>(49 827)</u>	<u>(20 963)</u>	<u>30 015</u>	<u>(14 531)</u>	<u>15 044</u>	<u>11 085</u>	<u>9 886</u>	<u>(11 071)</u>
<b>CONSOLIDATED BALANCE SHEET</b>										
<b>ASSETS</b>										
Current and other assets .....	112 566	77 985	62 951	41 229	47 591	31 088	28 554	27 943	25 002	34 202
Plant in service — cost .....	1 156 868	995 952	933 685	871 560	844 927	789 094	765 367	733 869	695 260	662 392
Accumulated depreciation and depletion .....	(350 012)	(322 310)	(295 912)	(269 661)	(245 511)	(220 620)	(197 467)	(175 891)	(159 942)	(140 570)
Work in progress .....	157 341	153 785	72 906	38 859	12 702	30 411	14 979	14 040	22 844	30 225
	<u>1 076 763</u>	<u>905 412</u>	<u>773 630</u>	<u>681 987</u>	<u>659 709</u>	<u>629 973</u>	<u>611 433</u>	<u>599 961</u>	<u>583 164</u>	<u>586 249</u>
<b>LIABILITIES</b>										
Current and other .....	109 642	102 935	149 578	76 734	62 927	73 986	51 653	65 861	68 985	84 711
Long-term debt — net .....	719 232	572 683	408 325	395 532	400 507	378 421	383 034	380 239	372 670	370 056
Contributed surplus .....	59 169	55 212	51 406	49 052	47 342	45 997	45 181	44 390	43 755	42 659
Rate Stabilization Reserve — appropriated from retained income .....	6 000	—	—	—	—	—	—	—	—	—
Unappropriated retained income .....	182 720	174 582	164 321	160 669	148 933	131 569	131 565	109 471	97 754	88 823
	<u>\$1 076 763</u>	<u>\$905 412</u>	<u>\$773 630</u>	<u>\$681 987</u>	<u>\$659 709</u>	<u>\$629 973</u>	<u>\$611 433</u>	<u>\$599 961</u>	<u>\$583 164</u>	<u>\$586 249</u>
PERCENTAGE EQUITY .....	25.2	27.8	33.5	33.3	31.9	30.8	30.4	27.7	26.3	24.8

(1) Intersystem usage of gas and electricity is included in system sales. This usage is eliminated on the statement of Consolidated Income and Retained Income.



## Record of progress

	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968
<b>OPERATIONS — ELECTRIC SYSTEM</b>										
Customers at December 31.....	327 323	315 635	302 611	291 966	283 282	277 508	274 400	271 000	269 200	267 500
Electricity sold (millions of kW·h).....	6 961	6 347	6 125	6 192	5 990	5 289	4 913	4 618	4 159	3 704
Average yearly residential consumption (kW·h).....	6 335	6 074	6 003	5 713	5 390	5 343	5 037	4 910	4 750	4 420
Average yearly farm consumption (kW·h).....	14 333	13 616	12 873	11 969	11 025	10 481	10 180	8 954	8 250	7 124
Rated generating capacity (kW)										
Hydro.....	467 000	467 000	467 000	467 000	467 000	467 000	467 000	467 000	467 000	467 000
Steam.....	1 349 500	1 057 000	1 057 000	1 057 000	1 057 000	907 000	807 000	807 000	682 000	532 000
Internal combustion.....	164 400	172 975	171 137	113 050	111 885	111 500	111 500	111 500	111 500	113 000
Total.....	1 980 900	1 696 975	1 695 137	1 637 050	1 635 885	1 485 500	1 385 500	1 385 500	1 260 500	1 112 000
Season gross system peak load (kW).....	1 585 000	1 432 000	1 330 000	1 289 600	1 290 900	1 175 000	1 089 000	1 066 000	956 000	918 000
Pole kilometres of line excluding urban distribution system										
72 kV and higher.....	8 752	8 380	8 309	8 229	8 156	7 918	7 828	7 458	7 223	7 223
Under 72 kV.....	121 045	120 109	119 299	118 457	117 163	116 309	115 816	115 280	114 832	114 180
<b>OPERATIONS—GAS SYSTEM</b> (Gas volumes at 14.65 psia)										
Customers at December 31.....	201 892	193 229	183 305	173 240	164 902	157 416	150 658	145 498	142 364	137 534
Gas sold (Thousands of Mcf).....	108 501	103 808	102 660	114 837	113 998	109 356	107 187	99 309	88 697	84 485
Average yearly residential consumption (Mcf).....	159	167	184	183	179	197	185	188	188	180
*Degree days deficiency (Regina).....	5 486	5 475	5 941	6 043	5 500	6 355	6 010	6 325	6 142	5 627
Maximum daily consumption (Mcf).....	636 440	588 420	535 700	522 930	543 410	539 240	522 440	487 240	447 030	421 980
Kilometres of pipeline in service										
Gathering.....	985	867	821	816	772	772	737	732	715	713
Transmission and laterals.....	7 955	7 920	7 879	7 873	7 549	7 113	6 521	6 133	5 499	5 398
Distribution.....	5 129	4 928	4 752	4 582	4 331	4 067	3 759	3 565	3 391	3 238
<b>AVERAGE MONTHLY EMPLOYEES</b> .....										
	2 949	2 887	2 837	2 625	2 519	2 453	2 420	2 464	2 461	2 597

\*Celsius using 18°C as base temperature



# SASKATCHEWAN

