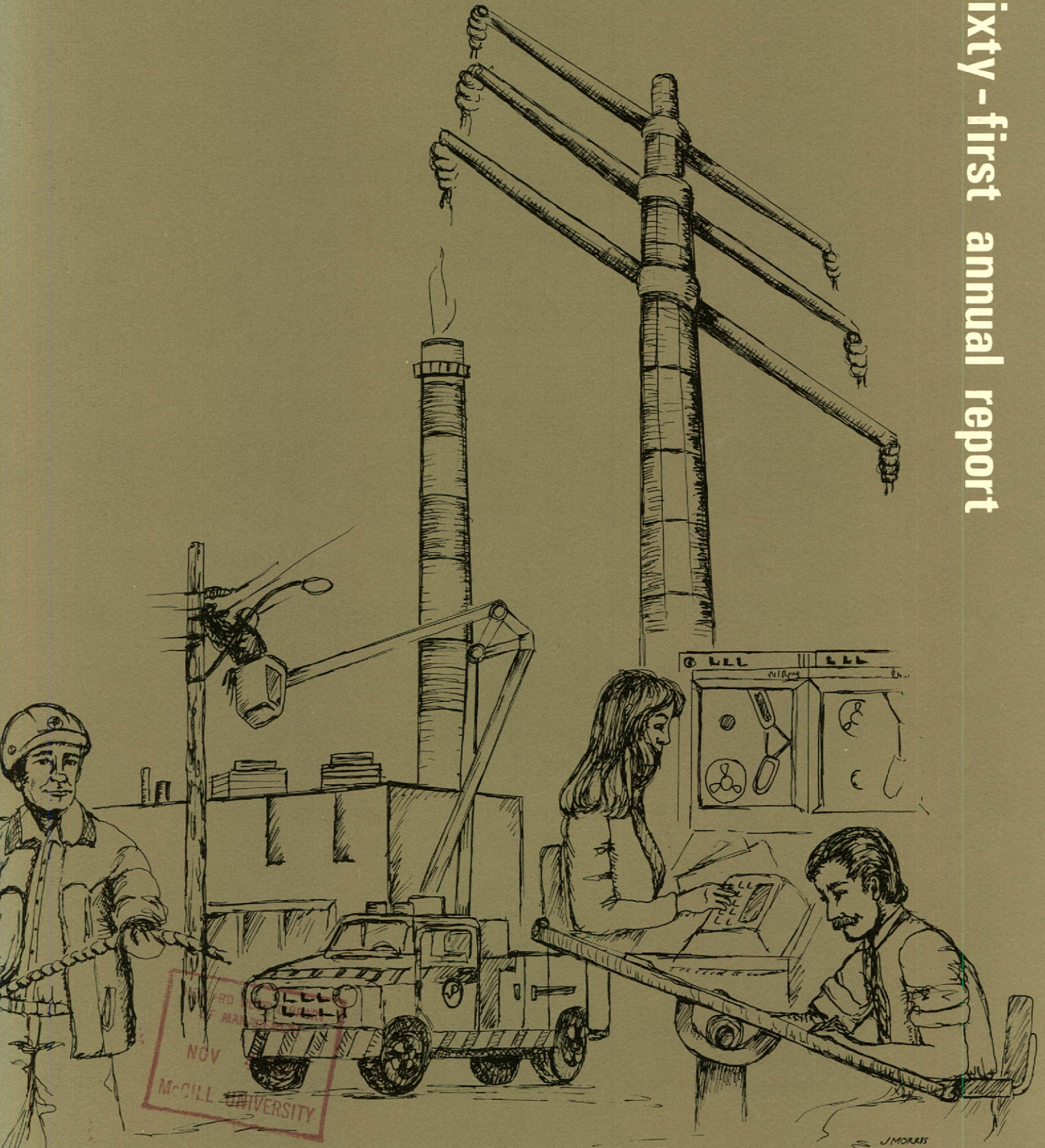


# nova scotia power corporation 1980-81



sixty-first annual report



NOV 1980  
McCILL UNIVERSITY

J. MORRIS

## Highlights

Coal becomes principal fuel source for electrical generation.

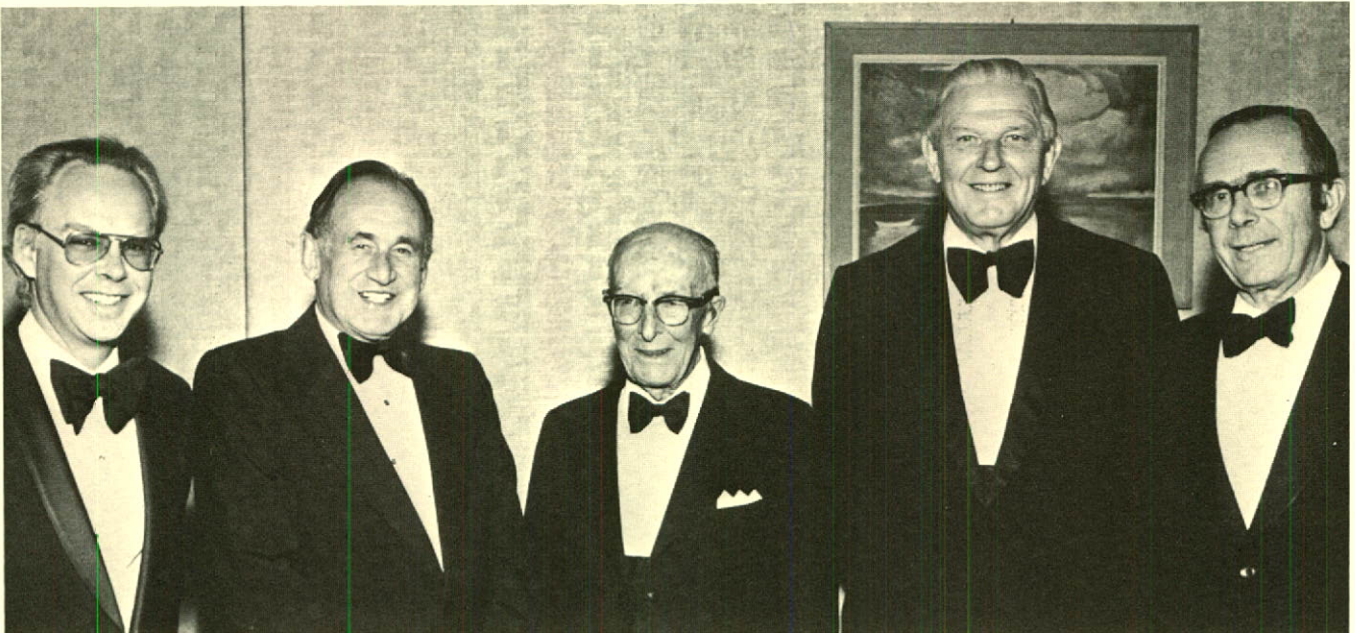
Lingan Unit No. 2 operational ahead of schedule and under budget.

No electric service rate increase for fiscal 1981.

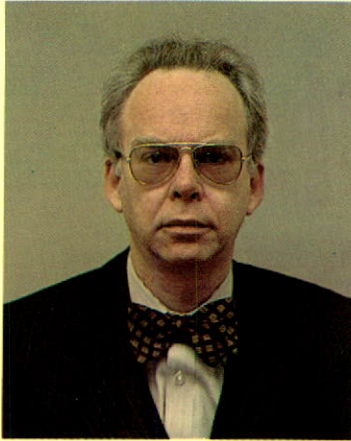
Net earnings of \$471,000 realized although a loss was forecast for fiscal 1981.

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*Dr. Harvey W. L. Doane (centre) and Ronald G. Smith (second from right) were honoured at a testimonial dinner on the occasion of their retirement, on March 29, from the Board of Directors. Dr. Doane served as a director for 28 years and Mr. Smith for 22 years. To commemorate their service and contribution, the Corporation established university scholarships in their names. The Dr. Harvey W. L. Doane Scholarship will be awarded annually at the Technical University of Nova Scotia to a Nova Scotia student entering the final year of the Bachelor of Engineering (Civil) program. The Ronald G. Smith Scholarship will be awarded annually at Dalhousie University to a Nova Scotia student entering the final year of the Bachelor of Commerce program. They are shown with J. A. F. Macdonald, Chairman of the Board of Directors; Lieutenant-Governor John Shaffner, a former Director; and Corporation President L. F. Kirkpatrick.*



J. A. F. Macdonald  
Chairman

July 31, 1981

To His Honour  
The Honourable John E. Shaffner  
Lieutenant-Governor of Nova Scotia

May It Please Your Honour:

The Nova Scotia Power Corporation presents herewith its sixty-first Annual Report for the twelve months ended March 31, 1981. Presentation of this report is pursuant to Section 12 of the Power Corporation Act, being Chapter 47 of the Statutes of Nova Scotia, 1973. The financial statements include the consolidated results of the Nova Scotia Power Corporation and its wholly-owned subsidiaries, Nova Scotia Light and Power Company, Limited and Eastern Light & Power Company Limited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "J. A. F. Macdonald". The signature is written in a cursive, flowing style.

Chairman



## President's Report

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From several standpoints, the fiscal year ended March 31, 1981, was most satisfactory for the Nova Scotia Power Corporation. Our overall operations reached new peaks of efficiency and a number of innovations enabled us to stay in the forefront of technological improvements.

### OFF-OIL POLICY

Our off-oil policy, started in the mid-seventies when world prices began to soar, continued to be an outstanding success.

The commissioning of the two 100-megawatt hydro units at Wreck Cove and the first two 150-megawatt coal-fired units at Lingan have resulted in an annual displacement of 3.6 million barrels of imported oil. In all, the Corporation's dependence on oil has been reduced from 65 per cent to 40 per cent in just over two years. Two additional 150-megawatt units at Lingan scheduled to come into operation in fiscal 1984 and 1985, together with two small hydro developments, Gisborne in the Wreck Cove system and Fourth Lake on the Sissiboo River, now under construction, will further reduce oil dependency to 17.7 per cent of forecast fuel requirements for electric generation.

This oil displacement program has not only enhanced the security of the Corporation's fuel supply but has contributed greatly to the revitalization of the coal industry in the province. It has also enabled the Government of Canada to reduce its level of payments under the Oil Import Compensation Program.

Nevertheless, Nova Scotians should be aware that the off-oil program carries with it certain trade-offs such as building expensive plant ahead of requirement. Our installed capacity currently stands at 1891 megawatts while our peak demand during 1980-81 was 1125 megawatts. With the completion of our generation construction program in 1985 our installed capacity will exceed 2200 megawatts compared with a projected peak load of 1308 megawatts. This advanced construction program is contrary to past practice since electric utilities normally attempt to minimize reserve capacity. Our departure from previously accepted standards is based strictly on economic, rather than technical grounds.

Our current strategy has presented no problem; indeed, as noted, it has meant increased security and economic benefits for the Corporation, Nova Scotia and Canada.



*Corporation President L. F. Kirkpatrick and Burlyn Hirtle, president of Local 1928, International Brotherhood of Electrical Workers, at the signing of a new collective agreement. During the past year new contracts were successfully negotiated with the three bargaining units within the Corporation.*

The continuance of the benefits so far achieved, however, may encounter difficulty in the short term. In the case of the Lingan coal-fired units, the critical factor is coal price. These units must provide a level of fuel savings, relative to the cost of oil they displace, sufficient to off-set the capital investment and the additional operating and maintenance expenses incurred in the transmission of power to the Halifax-Dartmouth load center.

Finally, just as there were risks of supply and price from being too dependent on imported oil, so may there be risks in relying on domestic fuel for so much of our future generation. Considering the overall benefits to be gained from using locally produced coal, such risks may be fully acceptable, but they should always be weighed against the alternative of a system with a greater diversification of generation options.

Beyond Lingan No. 4 the Corporation has a number of options under consideration. For instance, economic benefits could potentially be realized by using natural gas for a short while in existing oil-fired stations, depending on the price of gas when and if it becomes available in the province. Use of gas temporarily for the production of electricity could benefit gas consumers by permitting the distributor to contract for larger minimum pipeline flows at reduced prices during the early period of load buildup.

#### ENVIRONMENT

Rising public and governmental apprehension over stack emissions and acid rain is another cause for concern. The Federal Government's new emission guidelines could, if made fully applicable to Lingan units 3 and 4, add tens of millions of dollars to the cost of these projects and seriously affect their economic attractiveness. Moreover, while these guidelines apply only to new plants at present, the possibility cannot be discounted that they might, in future, be extended to existing installations.

#### FINANCIAL POSITION

Of more immediate concern is the Corporation's financial situation. We showed a small operating surplus, of just under \$500,000 on revenues of over \$350 million. Although the net earnings were relatively small, it was a considerable improvement over the budget for the year which indicated a substantial loss. The turnaround was the result of government assistance and continued improvement in operating efficiencies.

The Corporation's electric service rates have remained unchanged since mid-1979, and thus, in the face of escalating costs, we are not generating any funds from operations for retention within the business. This is not consistent with the practice of the majority of other Canadian electric utility crown corporations, who finance a portion of their capital programs through internally generated equity. We are committed to a heavy on-going construction program, the funds for which will have to be provided primarily through borrowings at record high interest rates. In light of this, and general cost escalation, effective financial management requires that the Corporation closely monitor its revenue requirements.

#### TECHNICAL LEADERSHIP

From its earliest days, the Corporation has been a technical leader within the electric utility industry. For example, the first hydro stations of the Mersey system, completed in 1930, became Canada's first fully remote controlled system. In the late sixties, the Point Tupper No. 1 thermal unit became one of the first in North America to be totally integrated with an industrial operation – the heavy water plant then owned by Canadian General Electric.

The Corporation's high level of engineering competence was further demonstrated by the completion of Lingan Units 1 and 2 ahead of schedule and under budget to the extent that some of Canada's largest utilities have made inquiries on the methods used to accomplish such outstanding results.

Our dedication to efficiency and innovation continues to produce benefits. The Corporation's overall thermal heat rate during the year was 10 006 Btu per kilowatt hour, one of the lowest on record for a utility of our size; and, at Wreck Cove the installation of the 280 kilowatt wind-turbine generator, in early 1981, marks the first use of a wind-powered pump-storage concept by a Canadian utility. This wind generator will help determine the economic feasibility of using wind-power to pump water from isolated lakes to existing storage reservoirs.

Of great interest is the Annapolis Tidal Power Project, the first of its kind in North America. The Power Corporation is responsible for its design and construction supervision.

During 1980-81, the Corporation became Canada's first electric utility to use fibre optics (hair-thin glass filaments that carry messages in the form of modulated

beams of light) in its substations for communication, data transmission and protection signals. Part of the associated equipment required to tie into our microwave system was developed by the Corporation's telecommunication engineers.

Another in-house innovation was the development of an improved computer backup program. Its use is saving the Corporation nearly \$150,000 annually. This program is now being marketed to other organizations.

**RESEARCH** As noted elsewhere in this report, a series of comprehensive customer-oriented studies and research programs are being undertaken over a four year period. Various aspects of rate design and costing, including load research, fully allocated cost of service, marginal cost analysis, rate experimentation and load forecasting techniques are being examined. In these areas the Corporation is in the forefront of North American utilities.

**CORPORATE EFFICIENCY** One source of gratification to all is the steady improvement in overall corporate efficiency. Management consultants, engaged to assist in the setting up of base line data and reference points for both internal and external comparisons, have established that organizational changes and procedures, initiated by the Corporation some years ago are most effective. Not only is steady improvement documented over the period under review but, more importantly, it is forecast to continue.

**NATURAL GAS** A further word on natural gas. The Corporation continues to maintain its interest in obtaining the franchise for gas distribution in the province. Our consultants inform us that the Corporation could supply gas at costs 5 to 10 per cent less than an investor-owned company. A number of electric utilities are already in the gas distribution business in Canada and our studies show that over 60 percent of U. S. electric utilities have gas distribution operations.

**MARITIME ENERGY CORPORATION** The Maritime Energy Corporation potentially could have been of long term benefit to the Maritimes, and on the short term would have provided the Corporation with the protection of being able to vary its generation mix. Naturally the Corporation was disappointed that we did not see the

realization of this concept. However, we continue to support current efforts to improve regional utility co-operation.

**CUSTOMERS AND EMPLOYEES** During the year, the 8100 customers of the Digby County Power Board became part of the Corporation to bring the total number of customers at year end to 323 014.

Labour relations within the Corporation continue on an harmonious level. All three collective agreements were successfully renegotiated for two-year periods. Furthermore, the Corporation continues to demonstrate its ability to construct major projects with virtually no work stoppages.

All of the progress of the past year would not have been possible without the valuable guidance of the Board of Directors and the dedication of Corporation employees. In fact, as this is my final report before retirement, I would like to express my sincere thanks to all with whom it has been my privilege to be associated during my 26 years with the Corporation. It has been a rewarding experience to have been part of such a team.



President and Chief Executive Officer

*The Lingan Generating Station has attracted visitors from far and near.*

*In June, senior executives from the Japanese industrial firm of Toshiba and Mitsui, manufacturers and suppliers of the turbines, toured the plant.*

*In July, a one-day open-house attracted over 2 000 visitors from surrounding communities.*

*Later in the year, plant staff was honoured with a visit by the Lieutenant-Governor of Nova Scotia, John Shaffner. Additionally, on several occasions, representatives from other Canadian utilities visited the plant to study, first-hand, the cost control methods and view the operation.* →

## The Year in Review

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On June 5, 1980, the 150-megawatt coal-fired No. 2 unit at the Lingan Generating Station was commissioned, three months ahead of schedule and below budget. This proved to be a major contributing factor in the Corporation's achievement of providing more electricity from coal-fired generation than from any other source.

Of the 6.3 billion kilowatt hours delivered to the provincial power system (an increase of 3.7 per cent over the previous year) 31 per cent was generated by Lingan. Overall, coal-fired generators accounted for 43.2 per cent of net generation and oil-fired units, primarily from Tufts Cove and Point Tupper plants, 40.4 per cent.

Net hydro production amounted to 923 million kilowatt hours, or 14.6 per cent of the system total. Although this was below the previous year's record output, production at the Wreck Cove hydro plant reached 347 million kilowatt hours, substantially exceeding last year's total of 306 million kilowatt hours.

Peak load for the year was recorded at 1125 megawatts on December 22, 1980. This was 4.9 per cent, or 52 megawatts above last year's peak.

For the first time in a number of years the Corporation sold more electrical energy to the New Brunswick Electric Power Commission than it purchased. More than 180 million kilowatt hours were sold to New Brunswick over the interprovincial grid while 115 million kilowatt hours were purchased. These transactions provided a net benefit to the Corporation of \$1.8 million.

Official ceremonies marking the upgrading of the interprovincial tie between the two provinces took place in August 1980, with Premiers Buchanan of Nova Scotia and Hatfield of New Brunswick officiating.

\* \* \*

Wind generation became part of the Corporation's system for the first time with the installation late in the fiscal year of a 280-kilowatt wind turbine at Wreck Cove. Final commissioning of the unit is scheduled for mid-1981.

Indigenous energy sources will continue to be utilized to further reduce the Corporation's dependence on imported oil. Lingan is again in the forefront of development with the start of construction of two additional 150-megawatt coal-fired units, Numbers 3 and 4. Forecasted to cost \$159 million, the No. 3 unit is scheduled to be in operation early in 1984. Unit No. 4 estimated

to cost \$136 million, is expected to be on line in fiscal 1985.

Two new hydro developments are under construction. A 3.5 megawatt unit is being installed at Gisborne on the Wreck Cove system and a 3 megawatt unit is under construction at Fourth Lake in Digby County. Commissioning is scheduled in 1981 and 1982, respectively.

A further hydro development is the \$48 million tidal power demonstration unit at Annapolis, scheduled to be in operation in 1983. This project is being constructed for Tidal Power Corporation to evaluate the operational characteristics of the Straflo turbine and the potential of such turbines for large scale tidal power developments in the Bay of Fundy.

In addition to current projects, Corporation staff is carrying out several technical and economic studies on coal-fired generation, including detailed feasibility studies relating to the installation of atmospheric fluidized bed combustion boilers at either the Trenton or Point Tupper plants.

A total of \$7.3 million was invested in improvements and additions to the Corporation's transmission system during the year. With the commissioning of the Lingan No. 2 unit, a new 230 000 volt SF<sub>6</sub> substation at Lingan was placed in service, and existing circuits between Lingan and Port Hastings and between Onslow and Brushy Hill, outside Halifax, were upgraded from 138 000 volts to 230 000 volts.

In Halifax, transmission improvements were carried out to assure an adequate power supply to the area and to eliminate the need to run expensive oil-fired generation at the Water Street plant. The completed program resulted in an increase in the operating voltage capacity of the transmission lines supplying the Halifax area from 69 000 volts to 138 000 volts. It also required the construction and commissioning of a new 138 000 volt SF<sub>6</sub> substation at Water Street and upgrading of the existing Kempt Road substation.

Other major transmission improvements included modification of existing transmission lines between Port Hastings, Antigonish, Trenton and Onslow to provide

*Continued on page 24*



*Premier John Buchanan officiated at ceremonies, in August, marking the upgrading of the 345 000 volt inter-provincial transmission connection with New Brunswick.*



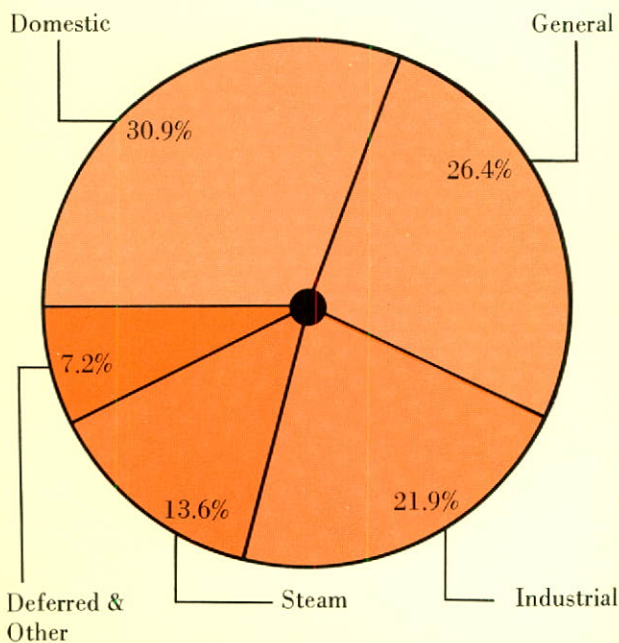


**Financial  
Section  
1980 - 1981**

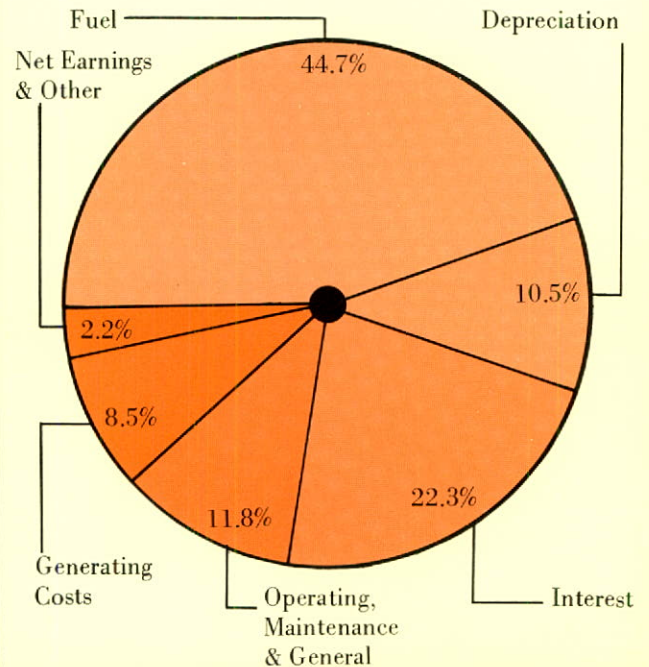
**FINANCIAL STATISTICS**

	1981 (in thousands)	1980	Percent Change
Net Income	\$ 471	\$ 9,331	(95.0)
Total Revenue	357,719	318,115	12.4
Electric Revenue	304,418	272,879	11.6
Steam Revenue	48,596	40,979	18.6
Total Cost of Operations	276,151	230,287	19.9
Fuel	159,839	129,378	23.5
Interest	79,779	77,179	3.4
Total Source of Working Capital	121,012	150,342	(19.5)
Net Proceeds from Long Term Borrowing	49,061	105,985	(53.7)
Total Use of Working Capital	89,619	136,983	(34.6)
Net Additions to Fixed Assets	37,467	97,328	(61.5)

**SOURCE OF REVENUE**  
1981 - \$358 million



**DISPOSITION OF REVENUE**  
1981 - \$358 million



## Financial Review

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A commitment of no electric service rate increases in a period of escalating costs presented the Corporation with a financial challenge for 1981. An operating loss had been anticipated which would require utilization of the rate stabilization reserve. However, productivity gains, prudent and effective operation and provincial government assistance to reduce the impact of foreign exchange costs, offset the increase in costs and in fact provided small net earnings of \$471,000.

The cost of operations rose \$46 million over 1980, \$30 million of this increase related to fuel, which is the single largest expense item for the Corporation as 84% of generation required was supplied from fossil fuel. The escalating price of oil for generation, and increases in the thermal generation requirement, were the primary reasons for the additional expense. Two factors contributed to the additional requirement: less rainfall in 1981 compared to the record levels of 1980 and additional generation required to meet the energy demands of the Corporation's customers.

The Corporation was able to lessen the impact of fuel increases by bringing on-line the 150 megawatt coal fired Lingan Unit No. 2 along with effective system operation and fuel management.

The Corporation finances its construction program primarily through long term borrowing, causing interest cost to become the second largest expense item. Interest costs from new long term borrowing, foreign exchange costs and a reduction in interest capitalized due to less fixed asset construction expenditures in 1981, caused significant increases in interest expense.

However, timely long term borrowing and cash administration reduced interim financing costs compared to 1980 and provided significant interest income from short term investments. These combined with the Province of Nova Scotia's foreign exchange assistance program, which became effective April 1, 1980 and assumed \$9.5 million of the Corporation's foreign exchange costs, helped to reduce the net increase in interest expense to 3.4%.

Although electric rates remained unchanged in 1981,

electric revenue rose \$32 million to \$304 million. This resulted from additional sales of 275 million kilowatt hours, a full year of impact of the June 18, 1979 rate increase and a revenue deferral of \$6.3 million from 1980.

Steam sales provided \$48.6 million in revenue, an increase of \$7.6 million, reflecting increased costs of supplying steam, principally higher fuel costs, which are recovered in the billings to steam customers.

The fixed asset construction highlights for the year were: commercial operation of Lingan Unit 2 on June 5, 1980, and the construction start on Lingan Unit 3, a 150 megawatt coal-fired unit, scheduled to become operational in February, 1984.

To provide funding for the construction program, a \$50 million 11½% borrowing was completed on July 15, 1980 on the Canadian market. Net working capital increased by \$31 million in fiscal 1981. The Corporation received \$13.3 million from the Province of Nova Scotia for settlement of claims prior to March 31, 1979 under the Rural Electrification Act. The Province also provided \$16.2 million for rate stabilization in future years.

# Auditors' Report

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To the Board of Directors  
Nova Scotia Power Corporation

We have examined the consolidated balance sheet of Nova Scotia Power Corporation as at March 31, 1981, and the consolidated statements of operations, retained earnings, rate stabilization reserve and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the financial position of the Corporation as at March 31, 1981 and the results of their operations and the changes in their 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.

**Peat, Marwick, Mitchell & Co.**  
Chartered Accountants

Halifax, Canada  
June 5, 1981

## Consolidated Statement of Operations

for the year ended March 31, 1981 with comparative figures for 1980

	1981	1980
	(in thousands)	
Revenue		
Electric - note 8	\$304,418	\$272,879
Steam	48,596	40,979
Other	4,705	4,257
	<u>357,719</u>	<u>318,115</u>
Cost of operations		
Power generated - fuel	159,839	129,378
- other	30,246	24,868
Power purchased	2,190	5,692
Operating, maintenance and general	42,061	34,472
Grants in lieu of taxes	4,169	4,000
Depreciation	37,646	31,877
	<u>276,151</u>	<u>230,287</u>
Earnings before the following	81,568	87,828
Interest - note 9	79,779	77,179
Amortization of Wreck Cove deferral	1,318	1,318
	<u>81,097</u>	<u>78,497</u>
Net earnings	<u>\$ 471</u>	<u>\$ 9,331</u>

*See accompanying summary of significant accounting policies  
and notes to consolidated financial statements.*

# Consolidated Balance Sheet

as at March 31, 1981 with comparative figures for 1980

	1981	1980
	(in thousands)	
ASSETS		
Fixed assets		
Property, plant and equipment in service	\$1,131,493	\$1,033,780
Less accumulated depreciation	<u>281,493</u>	<u>247,327</u>
	850,000	786,453
Construction work in progress	<u>11,646</u>	<u>75,372</u>
	861,646	861,825
Current assets		
Cash	95	90
Short-term investments at cost	12,000	6,000
Accounts receivable - note 1	61,515	39,399
Unbilled revenue	27,471	26,136
Inventories at cost	42,858	33,715
Prepaid expenses	<u>990</u>	<u>1,241</u>
	144,929	106,581
Long-term receivables	8,900	1,640
Deferred charges less amortization		
Financing costs	15,441	15,908
Other	<u>3,052</u>	<u>4,866</u>
	18,493	20,774
	<u>\$1,033,968</u>	<u>\$ 990,820</u>

APPROVED ON BEHALF OF THE CORPORATION

J. A. F. Macdonald  
Chairman

R. C. Fraser  
Vice-President and Chief Financial Officer

# Consolidated Balance Sheet

as at March 31, 1981 with comparative figures for 1980

## LIABILITIES AND EQUITY

	1981	1980
	(in thousands)	
Long-term debt		
Notes		
Province of Nova Scotia - note 2	\$ 71,950	\$ 76,926
Government of Canada - note 3	56,629	57,605
Other	—	14,943
Bonds and debentures - note 4	853,063	808,176
	<u>981,642</u>	<u>957,650</u>
Less		
Payable within one year - note 5	35,135	31,147
Sinking funds - note 6	64,532	50,513
	<u>99,667</u>	<u>81,660</u>
	881,975	875,990
Current liabilities		
Bank indebtedness	8,785	324
Accounts payable and accrued charges	26,823	26,818
Customers' deposits and accrued interest	1,740	1,454
Deferred revenue	—	6,276
Accrued interest on long-term debt	28,048	27,557
Long-term debt payable within one year	35,135	31,147
	<u>100,531</u>	<u>93,576</u>
Deferred credits	3,352	3,117
Equity		
Contributed surplus - note 7	13,327	—
Rate Stabilization reserve	25,977	9,331
Retained earnings	8,806	8,806
	<u>48,110</u>	<u>18,137</u>
	<u>\$1,033,968</u>	<u>\$990,820</u>
Commitments - note 13		
Contingency - note 14		

*See accompanying summary of significant accounting policies  
and notes to consolidated financial statements.*

## Consolidated Statement of Retained Earnings

for the year ended March 31, 1981 with comparative figures for 1980

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	1981	1980
	(in thousands)	
Balance at beginning of year	\$ 8,806	\$ 8,806
Net earnings	<u>471</u>	<u>9,331</u>
	9,277	18,137
Appropriation to rate stabilization reserve	<u>471</u>	<u>9,331</u>
Balance at end of year	<u>\$ 8,806</u>	<u>\$ 8,806</u>

## Consolidated Statement of Rate Stabilization Reserve

for the year ended March 31, 1981 with comparative figures for 1980

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	1981	1980
	(in thousands)	
Balance at beginning of year	\$ 9,331	\$ —
Appropriation from retained earnings	471	9,331
Grant from Province of Nova Scotia - note 10	<u>16,175</u>	<u>—</u>
Balance at end of year	<u>\$ 25,977</u>	<u>\$ 9,331</u>

*See accompanying summary of significant accounting policies  
and notes to consolidated financial statements.*



## Consolidated Statement of Changes in Financial Position

for the year ended March 31, 1981 with comparative figures for 1980

	1981	1980
	(in thousands)	
Source of working capital		
Operations		
Net earnings	\$ 471	\$ 9,331
Items not requiring an outlay of funds		
Depreciation	37,646	31,877
Amortization of deferred charges	3,569	2,689
	<u>41,686</u>	<u>43,897</u>
Provincial rural electrification payment	13,327	—
Provincial grant for rate stabilization	16,175	—
Proceeds from long-term borrowings less discount	49,061	105,985
Other transactions	763	460
	<u>121,012</u>	<u>150,342</u>
Use of working capital		
Net additions to fixed assets	37,467	97,328
Repayment of long-term debt	26,357	13,211
Increase in sinking funds on long-term debt	14,019	15,463
Increase in long-term debt payable within one year	3,988	9,628
Increase in long-term receivables	7,788	50
Lingan deferral	—	1,303
	<u>89,619</u>	<u>136,983</u>
Increase in working capital	31,393	13,359
Working capital (deficiency) at beginning of year	<u>13,005</u>	<u>(354)</u>
Working capital at end of year	<u>\$ 44,398</u>	<u>\$ 13,005</u>

*See accompanying summary of significant accounting policies and notes to consolidated financial statements.*

## Summary of Significant Accounting Policies

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### Consolidation

The consolidated financial statements include the accounts of Nova Scotia Power Corporation and its wholly-owned subsidiaries, Nova Scotia Light and Power Company, Limited and Eastern Light & Power Company Limited.

### Regulation

The Corporation is a Crown Corporation of the Province of Nova Scotia engaged in the production and sale of electric energy and steam, and is regulated by the Board of Commissioners of Public Utilities for the Province of Nova Scotia pursuant to the Public Utilities Act.

### Property, Plant and Equipment

The property, plant and equipment of the Corporation are recorded at original cost net of contributions in aid of construction. Expenditures for additions, replacements and improvements, which are comprised of direct labour, material, engineering, and related overhead costs, are capitalized whereas repairs and maintenance are charged to operations. Interest on funds used during construction is capitalized monthly at an interest rate which represents the effective cost of capital determined at the preceding fiscal year end. For property replaced or renewed the original cost plus removal cost less salvage is charged to accumulated depreciation.

The excess of the Corporation's investment over the book value of subsidiaries and acquired power utilities was \$30,184,000. This amount is being amortized on a straight line basis over terms ranging from 11 - 33 years. At March 31, 1981, the unamortized value included in the fixed assets of the Corporation was \$18,740,000.

Depreciation is provided for by the Corporation on a straight line basis, based on useful life. The estimated useful lives for the main categories of plant in service are summarized as follows:

Classification	Useful Life in Years
Hydraulic Generating Stations	40
Thermal Generating Stations	28 1/2
Gas Turbine Generating Stations	20
Transmission	33
Distribution and General Property	26

Depreciation expense for the year ended March 31, 1981 included \$1,202,000 representing amortization of excess of investment over book value of acquired utilities.

### Financing Costs

The Corporation amortizes the expenses, discounts, or premiums of securities issues to operations in equal amounts over the period to maturity or early maturity option of the issues to which they pertain.

## Summary of Significant Accounting Policies (Continued)

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### Foreign Exchange

Long-term debt repayable in foreign currencies, including long-term debt payable within one year, is translated to Canadian currency at the rate of exchange at time of issue. Realized exchange gains or losses are included with interest expense in the consolidated statement of operations.

Accrued interest on the long-term foreign debt is recorded at exchange rates prevailing at year end and the resulting unrealized exchange losses are included with interest expense in the consolidated statement of operations.

The Corporation entered into an agreement with the Province of Nova Scotia effective April 1, 1980, which provides that the Province assume certain foreign currency costs related to existing debt denominated in foreign currencies. Under the terms of this agreement, the Province assumed \$9,505,000 of foreign currency costs in the current year.

## Notes to Consolidated Financial Statements

March 31, 1981

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### 1. ACCOUNTS RECEIVABLE

Accounts receivable include a grant from the Province of Nova Scotia of \$16,175,000 (see note 10).

### 2. LONG-TERM NON-CALLABLE NOTES PAYABLE TO THE PROVINCE OF NOVA SCOTIA

Loans made by the Province up to November 30, 1962 are repayable in equal annual installments including principal and interest, and mature on varying dates from 1988 to 2001. Included in these loans are notes in the amount of \$7,307,000 which contain a provision to refinance the remainder of the loan balance on varying dates from 1982 to 1991 at the rate of interest then to be determined. The composite rate of interest for these loans is 7.78 per cent per annum (7.36% - 1980).

1981	1980
(in thousands)	
\$18,950	\$23,926

Loans made by the Province after November 30, 1962 are repayable on a sinking fund basis with one-half of the loan payable in the twentieth year and the balance payable in the fortieth year, and mature on varying dates from 2003 to 2011. These loans contain a provision for refinancing on varying dates from 1983 to 1992 at the rate of interest then to be determined. The composite rate of interest for these loans is 7.55 per cent per annum (7.55% - 1980).

<u>53,000</u>	<u>53,000</u>
<u>\$71,950</u>	<u>\$76,926</u>

## Notes to Consolidated Financial Statements

March 31, 1981

### 3. LONG-TERM NON-CALLABLE NOTES PAYABLE TO GOVERNMENT OF CANADA

Loans from the Government of Canada are repayable in equal annual installments including principal and interest and mature on varying dates from 1992 to 2012. The composite rate of interest for these loans is 6.70 per cent per annum (6.66% - 1980).

\$ 56,629                      \$ 57,605

### 4. BONDS AND DEBENTURES

Nova Scotia Power Corporation debentures (guaranteed by Province of Nova Scotia)

Serial Letter	Interest Rate %	Date of Maturity		1981 (in thousands)	1980
A	5 5/8	Mar. 1, 1992		\$ 426	\$ 426
B	6 1/4	Mar. 1, 1992		2,500	2,500
C	7	Mar. 1, 1992		690	690
D	7 3/4	Mar. 15, 1997	(U.S. \$40,000,000)	39,889	39,889
E	8 1/8	Nov. 15, 1992		30,000	30,000
F	7	Dec. 1, 1987	(DM 75,000,000)	23,358	24,916
G	8 1/8	July 15, 1998	(U.S. \$30,000,000)	29,961	29,961
H	8 1/4	May 1, 1984	(U.S. \$4,000,000)	3,927	3,927
J	8 3/8	May 1, 1986-94	(U.S. \$23,500,000)	22,929	22,929
K	9 1/2	July 1, 1981-94		18,000	18,000
L	10 1/2	Sept. 15, 2000	(U.S. \$50,000,000)	51,230	51,230
M	10	Mar. 1, 2001		50,000	50,000
N	6 3/4	May 10, 1991	(SF 79,250,000)	31,156	31,450
O	9 3/4	Oct. 21, 2001		50,000	50,000
P	9 3/4	Nov. 1, 2001		5,000	5,000
Q	9 1/4	Feb. 22, 2002		50,000	50,000
R	9 1/4	Feb. 22, 2002		5,000	5,000
S	9 1/4	July 21, 2002		50,000	50,000
T	9 1/4	July 21, 2002		5,000	5,000
U	9.45	Dec. 1, 2002		15,000	15,000
V	9 3/8	Jan. 10, 2003		50,000	50,000
W	9 5/8	June 1, 2008	(U.S. \$75,000,000)	84,034	84,034
X	10	Dec. 21, 1998		50,000	50,000
Y	9 3/4	May 15, 1989	(U.S. \$47,900,000)	55,631	58,070
Z	11 1/4	Jan. 4, 2000		50,000	50,000
AA	11 1/2	July 15, 2005		50,000	—
				<u>823,731</u>	<u>778,022</u>

# Notes to Consolidated Financial Statements

March 31, 1981

## 4. BONDS AND DEBENTURES (Continued)

Nova Scotia Light and Power Company, Limited first mortgage sinking fund bonds (now unsecured but guaranteed by the Corporation and Province of Nova Scotia)

5 3/4	Apr. 1, 1984	7,424	7,717
6	Apr. 1, 1986	3,942	4,043
8 1/2	Apr. 15, 1991	10,474	10,704
9 3/4	Jan. 2, 1982	5,322	5,485
		<u>27,162</u>	<u>27,949</u>

Eastern Light & Power Company Limited first mortgage sinking fund bonds (now unsecured but guaranteed by the Corporation and Province of Nova Scotia)

Serial Letter	Interest Rate %	Date of Maturity	1981 (in thousands)	1980
A	5 3/4	Jan. 2, 1985	2,150	2,175

Caledonia Power and Water Board Serial debentures

5 3/4	July 1, 1982	20	30
		<u>2,170</u>	<u>2,205</u>
		<u>\$853,063</u>	<u>\$808,176</u>

Bonds and debentures repayable in foreign currencies are translated to Canadian currency at the rate of exchange at time of issue. If the bonds and debentures repayable in foreign currencies were translated to Canadian currency at March 31, 1981 the total of \$853,063,000 would be increased by \$70,637,000 to \$923,700,000 (At March 31, 1980, the total of \$808,176,000 would have been increased by \$78,596,000 to \$886,772,000).

The bonds and debentures are redeemable as provided under the terms of the respective trust deeds.

# Notes to Consolidated Financial Statements

March 31, 1981

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## 5. LONG-TERM DEBT MATURITIES

Long-term maturities and sinking fund requirements, including those in foreign currencies, in respect of long-term debt outstanding at March 31, 1981 are as follows:

Year Ending March 31	Canadian Equivalent at Time of Issue  (in thousands)	Canadian Equivalent at March 31, 1981
1982	\$ 35,135	\$ 39,215
1983	26,500	30,580
1984	20,371	24,452
1985	33,001	37,901
1986	21,571	25,676
	<u>\$136,578</u>	<u>\$157,824</u>

## 6. SINKING FUNDS

Sinking funds, including those in foreign currencies, consist of securities and cash held by the Corporation and trustees for the redemption of certain debt issues. Certain issues of bonds and debentures requiring annual redemption for sinking fund purposes provide that the Corporation may satisfy its obligation by purchasing bonds or debentures on the open market at any time prior to the due date at prices not exceeding 100% of the principal amount thereof. Bonds and debentures purchased during the year and not yet cancelled amount to \$2,989,000. The gain resulting from these transactions is included in other revenue.

If the sinking funds in foreign currency were translated to Canadian currency at March 31, 1981, the total of \$64,532,000 would be increased by \$5,098,000 to \$69,630,000. (At March 31, 1980, the total of \$50,513,000 would have been increased by \$4,095,000 to \$54,608,000).

## 7. CONTRIBUTED SURPLUS

On June 18, 1980, the Province of Nova Scotia paid to the Corporation, a capital contribution of \$13,327,000 representing the settlement of the Corporation's claim to March 31, 1979 under the Rural Electrification Act.

## 8. ELECTRIC REVENUE

Electric revenue includes payments from the Province of Nova Scotia, of rate assistance on behalf of Corporation customers, of \$20,605,000 for the current year (\$19,762,000 - 1980).

Electric service is provided to the Province of Nova Scotia and its agencies at the appropriate class rates as approved by the Board of Commissioners of Public Utilities for the Province of Nova Scotia.

# Notes to Consolidated Financial Statements

March 31, 1981

## 9. INTEREST

Interest is comprised as follows:	1981	1980
	(in thousands)	
Interest on long-term debt	\$ 89,011	\$81,315
Amortization of financing costs	1,755	1,145
Interest on short-term borrowings	186	694
Foreign exchange loss	11,845	12,108
Other	183	161
	<u>102,980</u>	<u>95,423</u>
Less		
Recovery of foreign exchange from the Province	9,505	—
Interest charged to construction	2,346	12,178
Sinking fund earnings	5,230	3,940
Other investment income	6,120	2,126
	<u>23,201</u>	<u>18,244</u>
	<u>\$ 79,779</u>	<u>\$77,179</u>

## 10. RATE STABILIZATION

Pursuant to an Order in Council dated March 31, 1981, the Province of Nova Scotia provided the Corporation with a grant of \$16,175,000 to be credited directly to the rate stabilization reserve.

## 11. CHANGE IN ACCOUNTING ESTIMATE - OVERHEAD CAPITALIZED

Certain costs, previously deferred as capital overhead, are now expensed as incurred. Such costs are related to the general activities or administration of the Corporation and bear no direct relationship to the level of construction activity. The change in estimate, accounted for on a prospective basis, has resulted in an additional charge to operations of \$2,949,000 for the current year.

## 12. RELATED PARTY TRANSACTIONS

Related party transactions are disclosed elsewhere in the consolidated financial statements and include provincial government assistance in the areas of foreign exchange, electric revenue, rate stabilization and rural electrification.

# Notes to Consolidated Financial Statements

March 31, 1981

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## 13. COMMITMENTS

- (a) As at March 31, 1981, the Corporation was constructing generation, transmission and other facilities estimated to cost approximately \$227 million of which approximately \$11 million has been expended and an additional \$42 million has been committed under contract.
- (b) The Corporation is committed to operating leases of equipment and office premises which range in length from five to ten years. Minimum lease payments over the next five years will amount to \$2.6 million annually. Lease expenses charged to operations during the current year were \$2.3 million (\$1.8 million - 1980).
- (c) The Corporation's employees are covered by the Public Service Superannuation Plan of the Province of Nova Scotia under which contributions are made equally by the Corporation and the employees. Employees of Nova Scotia Light and Power Company, Limited became employees of the Corporation on April 1, 1973, at which time pension benefits under the Nova Scotia Light and Power Company, Limited pension plan were vested, subject to the requirements as to length of service, and such employees became members of the Public Service Superannuation Plan. The Corporation provides supplemental pension benefits to employees of other acquired utilities additional to those which are payable under the existing plans.

According to the most recent actuarial valuation, completed in 1979 and updated in April, 1980 for an increase in the cost of living index, \$18.7 million of past service liability under the supplemental pension plan and the Nova Scotia Light and Power Company, Limited pension plan is unfunded. The annual amount required to fund all past service costs of the pension plans, exclusive of the increase in the cost of living index, is \$1.3 million for 21 years. For the year ended March 31, 1981, the Corporation has provided for this amount in the consolidated statement of operations.

## 14. CONTINGENCY

A contractor engaged by the Corporation has commenced legal action against the Corporation, claiming \$1.4 million resulting from breach of contract and tortious and other unlawful acts. The Corporation has filed its defence and proceedings are continuing. No provision has been made for this claim in the consolidated statement of operations. The position of the Corporation is that any award of damages or settlement would be a charge to the capital cost of the construction project.



# Comparative Statistics

(For the Twelve Month Period Ended March 31)

	1981	1980	1979	1978	1977
<b>Electric Energy Generated and Purchased</b> (Thousand kW·h):					
Generated (net)	6,407,474	5,806,710	5,698,046	5,313,540	5,349,903
Purchased	116,866	319,580	265,608	348,049	377,795
	<u>6,524,340</u>	<u>6,126,290</u>	<u>5,963,654</u>	<u>5,661,589</u>	<u>5,727,698</u>
Losses and Internal Use	530,922	407,888	441,730	422,464	429,623
Electric Energy Sold	<u>5,993,418</u>	<u>5,718,402</u>	<u>5,521,924</u>	<u>5,239,125</u>	<u>5,298,075</u>
<b>Electric Energy Sales (Thousand kW·h):</b>					
Domestic Service	1,886,129	1,795,413	1,757,063	1,740,197	1,779,416
General Service	1,577,122	1,520,404	1,469,069	1,457,548	1,447,770
Industrial Power	2,274,727	2,080,061	1,989,749	1,743,067	1,779,998
Municipalities	185,203	254,881	239,509	234,154	229,703
Unmetered Services	70,237	67,643	66,534	64,159	61,188
Total Electric Energy Sales	<u>5,993,418</u>	<u>5,718,402</u>	<u>5,521,924</u>	<u>5,239,125</u>	<u>5,298,075</u>
<b>Non-Electric Energy Sales – Steam</b> (Thousand lbs.):					
A.E.C.L. - Pt. Tupper	7,654,280	7,066,500	8,600,110	7,302,820	6,061,033
A.E.C.L. - Glace Bay	5,803,575	5,713,690	5,724,064	2,262,705	4,537,096
Water Street	114,795	138,295	147,385	166,635	167,142
Total Pounds of Steam Sold	<u>13,572,650</u>	<u>12,918,485</u>	<u>14,471,559</u>	<u>9,732,160</u>	<u>10,765,271</u>
<b>Electric Revenue (Thousand \$):</b>					
Domestic Service	\$ 110,729*	\$ 101,174*	\$ 87,203	\$ 77,124	\$ 55,620
General Service	94,506*	86,365*	76,775	68,371	49,717
Industrial Power	78,354*	68,843*	58,070	46,797	34,067
Municipalities	7,280*	9,598*	8,034	7,184	5,429
Unmetered Services	7,273*	6,899*	6,299	5,518	4,026
Deferred Revenue	6,276	—	—	—	—
Total Electric Revenue	<u>304,418</u>	<u>272,879*</u>	<u>236,381</u>	<u>204,994</u>	<u>148,859</u>
* Excludes deferred revenue					
<b>Non-Electric Revenue:</b>					
Steam	48,596	40,979	42,014	22,288	23,980
Miscellaneous	4,705	4,257	3,459	3,568	4,323
Total Non-Electric Revenue	<u>53,301</u>	<u>45,236</u>	<u>45,473</u>	<u>25,856</u>	<u>28,303</u>
Total Revenue	<u>\$ 357,719</u>	<u>\$ 318,115</u>	<u>\$ 281,854</u>	<u>\$ 230,850</u>	<u>\$ 177,162</u>
<b>Average Electric Revenue per kW·h:</b>					
Domestic Service	5.87¢	5.64¢	4.96¢	4.43¢	3.13¢
General Service	5.99¢	5.68¢	5.23¢	4.69¢	3.43¢
Industrial Power	3.44¢	3.31¢	2.92¢	2.68¢	1.91¢
Municipalities	3.93¢	3.77¢	3.35¢	3.07¢	2.36¢
Unmetered Services	10.35¢	10.20¢	9.47¢	8.60¢	6.58¢
All Classifications Combined	4.97¢	4.77¢	4.28¢	3.91¢	2.81¢
<b>Average Steam Revenue per</b> <b>Thousand pounds</b>	\$3.58	\$3.17	\$2.90	\$2.29	\$2.23
<b>Number of Employees</b>	2,548	2,578	2,568	2,536	2,482
<b>Number of Customers</b>	323,014	310,759	303,456	296,084	290,244
<b>km of Transmission Lines (69 kV &amp; over)</b>	4,452	4,262	3,950	3,863	3,789
<b>km of Distribution Lines (36 kV &amp; under)</b>	19,741	19,440	19,153	18,860	18,469
<b>Cost of Fuel (Thousand \$)</b>	\$ 159,839	\$ 129,378	\$ 126,354	\$ 93,429	\$ 74,648

*Continued from page 6*

additional capacity and improved reliability; upgrading of transmission lines to meet growing demand in the Dartmouth area; improvements of service reliability between Liverpool and Yarmouth; and the construction of a 69 000 volt line between Glace Bay and Donkin coal mine. At year end, planning was well advanced for a new 230 000 volt circuit between Onslow and the Lingan plant.

\* \* \*

The number of customers in all categories of service totalled 323 014. This was an increase of 12 255 over the previous year and included approximately 8100 former customers served by the Digby County Power Board which was acquired by the Corporation in June, 1980. The Digby County Power Board was comprised of the electrical utilities of the Town of Digby, the Municipality of the County of Digby, the Village of Weymouth and the Municipality of the District of Clare.

Total electrical energy sales to customers in all classifications of service amounted to 5 993 418 000 kilowatt hours, an increase of 4.8 per cent over the previous year.

A major storm occurred on November 18 and 19, 1980 which caused extensive damage to the Corporation's distribution system. Areas of greatest damage were along the northern part of the province, from Cumberland to Antigonish Counties, and on Cape Breton Island. Of the approximately 80 000 customers who lost their electric service as a result of the storm, 82 per cent were restored within one day. Full restoration of service was accomplished within one week.

\* \* \*

A special four-year project, entitled "Peak Load Pricing and Load Control Study", is progressing favourably. The project encompasses a number of customer-oriented studies and research programs. These are expected to aid the Corporation in determining the most equitable type of rate designs and cost allocation methods. To date, an "Appliance Saturation Survey" has been completed and an interview program has been initiated for 800 customers who have agreed to allow monitoring of their electricity usage. The data will be computerized and the consolidated information will be available for analysis within the next 18-24 months.

\* \* \*

"The Wise and Effective Use of Electricity" continued to be encouraged through demonstrations at exhibi-



*Corporation line crews are often called upon to restore service under adverse weather conditions.*

tions, fairs and cooking schools throughout the province. The Corporation also maintained its active participation in the "Energy Efficient Home Program". Continuing escalation in the cost of home heating oil is being reflected in the increasing number of all-electric heating designs prepared by energy management personnel. Customers' requests increased by approximately 30 per cent over the previous year.

\* \* \*

During the year, 24-month collective agreements were successfully negotiated with each of three bargaining units which represent approximately 60 per cent of the 2548 employees. Union locals representing employees of the Corporation are Local 1928 of the International Brotherhood of Electrical Workers; and Locals 507 and 610 of the Canadian Brotherhood of Railway, Transport and General Workers. It is significant to note that in the case of Local 610, negotiations were completed several weeks before the expiration of the former agreement.

In the past 12 months, conversion to the SI metric sys-

tem of measurements progressed very satisfactorily in all Divisions of the Corporation. Essentially all new additions to Corporation plant are being designed and constructed in metric terms, to the extent that metric materials and equipment are available at no additional cost. Also, the Corporation published a "SI-Metric Usage Guide" which was distributed to all employees.

Employee health and safety remains a concern and the "I Care" safety awareness program has given new impetus to safe working programs and results are becoming evident. Currently, the program is being stimulated further with the incorporation of the "Join The Team" theme. The incidence of lost-time injuries is being reduced and assessments levied by the Workers' Compensation Board have been lowered again this year, continuing a trend of several years. In addition to occupational safety training programs, defensive driving programs and cardiopulmonary resuscitation instruction is made available and widely encouraged.

\* \* \*

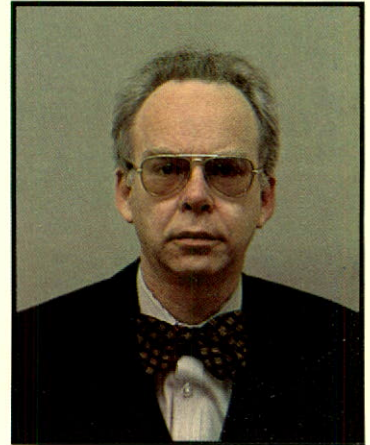


*Last year, employees across the province, through payroll deduction, contributed over \$35,000 to various charitable organizations. The above photo shows Halifax-Dartmouth Employee Charitable Fund representatives Doris Jennex, Otis Jennex and David Clough, presenting a cheque to Harry Porter, left, 1980 chairman of the Halifax-Dartmouth United Way.*

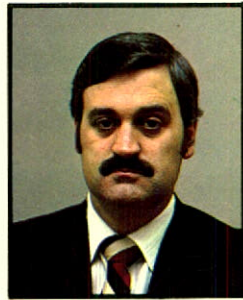
# Board of Directors

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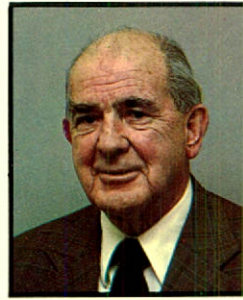
**J. A. F. Macdonald**  
*Chairman*  
*Halifax*



**A. F. Bruce**  
*Truro*



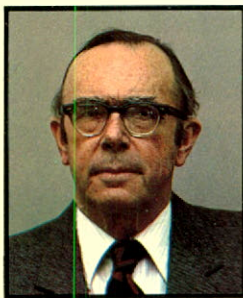
**L. R. Comeau**  
*Church Point*



**C. J. Creighton**  
*Dartmouth*



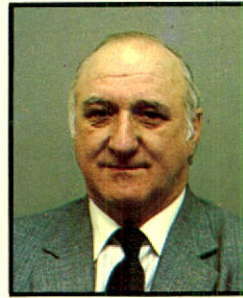
**L. K. Hill**  
*Port Williams*



**Dr. L. F. Kirkpatrick**  
*Halifax*



**G. D. Macdonald**  
*New Glasgow*



**J. G. MacDonald**  
*Sydney*



**G. J. McCulloch**  
*Halifax*



**C. S. Smith**  
*Liverpool*



**M. Barbara Walker**  
*Halifax*



**\*Dr. H. W. L. Doane**  
*Halifax*



**\*R. G. Smith**  
*Halifax*

# Officers

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**Dr. L. F. Kirkpatrick**  
*President and  
Chief Executive Officer*



**G. D. Mader**  
*Senior Vice-President*



**R. C. Fraser**  
*Vice-President and  
Chief Financial Officer*



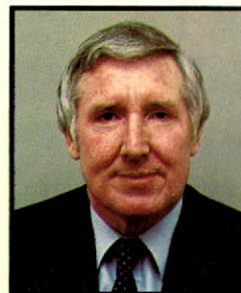
**K. W. McGrail**  
*Vice-President  
Corporate and Public Affairs*



**D. G. Brown**  
*Vice-President  
Planning*



**L. J. Sweett**  
*Vice-President  
Operations*



**E. A. LeBlanc, Q.C.**  
*Secretary and  
General Counsel*

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**Head Office:**  
Scotia Square  
1894 Barrington Street  
Halifax, Nova Scotia

**Mailing Address:**  
Post Office Box 910  
Halifax, Nova Scotia  
B3J 2W5

**Transfer Agent and Registrar:**  
Banking and Corporate Trust Dept.  
Nova Scotia Power Corporation

**Zone Headquarters:**  
Western -  
Milton, Queens County

Halifax -  
Lakeside, Halifax County

Central -  
Stellarton, Pictou County

Eastern -  
Sydney, Cape Breton County

**Auditors:**  
Peat, Marwick, Mitchell & Co.,  
Halifax

**Bankers:**  
Bank of Nova Scotia  
Royal Bank of Canada

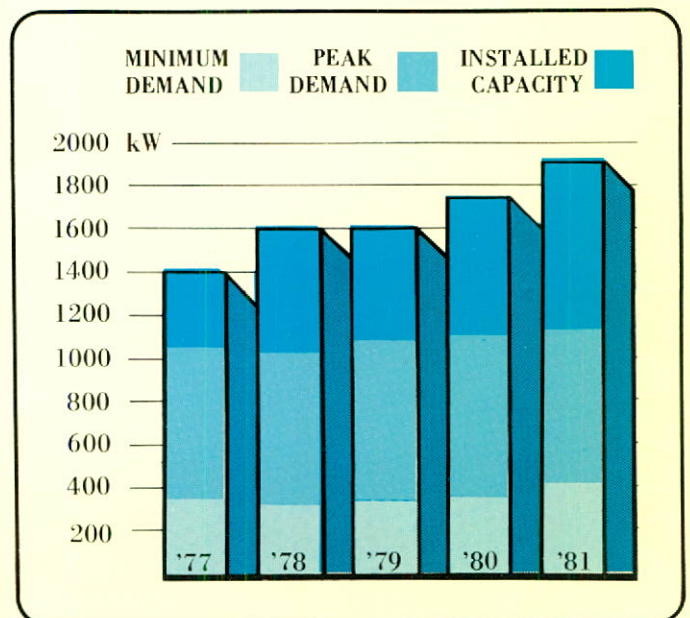
**Solicitors:**  
Cox, Downie, Nunn & Goodfellow  
Halifax

# Generation Statistics

(for the twelve month period ended March 31, 1981)















	Installed Capacity in kW	1980-81 Generation (kW·h X 1000)
<b>STEAM</b>		
Tufts Cove	350,000	1,508,404
Lingan	300,000	2,072,750
Point Tupper	230,750	1,189,147
Trenton	210,000	805,245
Water Street	165,000	137,558
Glace Bay	96,000	173,202
Maccan	15,000	5,818
	<u>1,366,750</u>	<u>5,892,124</u>
<b>GAS TURBINE</b>		
	168,575	7,418
<b>HYDRO</b>		
Total 30 Plants	354,902	923,179
<b>WIND TURBINE</b>		
	<u>280</u>	—
<b>TOTAL CAPACITY</b>		
	<u>1,890,507</u>	
<b>TOTAL GENERATION</b>		
		6,822,721
Less: Station Service		<u>415,247</u>
<b>NET GENERATION</b>		
		6,407,474
Purchases		116,866
Inter-Provincial Sales (to NBEPC)		<u>(180,005)</u>
<b>NET REQUIREMENT</b>		
		<u>6,344,335</u>





**System Map**

-  345 kV line
-  230 kV line
-  138 kV line
-  69 kV line
-  Municipal Utilities
-  Steam
-  Gas Turbine
-  Hydro
-  Wind Turbine
- Under Construction
-  Steam (Lingan)
-  Annapolis Tidal Power Project
-  Hydro (Gisborne, Fourth Lake)

