NORTHERN PIPELINE AGENCY

ANNUAL REPORT 1983-1984

Canada

Northern Pipeline Agency
Canada

Administration du pipe-line du Nord
Canada

ANNUAL REPORT

1983-1984

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Ottawa, Ontario,
December 31, 1984.

Dear Sir:

I present herewith the Annual Report of the Northern Pipeline Agency for the fiscal year ending March 31, 1984, together with the report of the Auditor General on the accounts and financial transactions of the Agency for the same period, for submission by you to Parliament as provided for under Section 13 of the *Northern Pipeline Act*.

Yours sincerely,

Mitchell Sharp

Mitchell Sharp,
Commissioner,
Northern Pipeline Agency.

The Hon. Donald Mazankowski, P.C., M.P.,
Minister of Transport and Minister responsible for the
Northern Pipeline Agency,
House of Commons,
Ottawa, Ontario.

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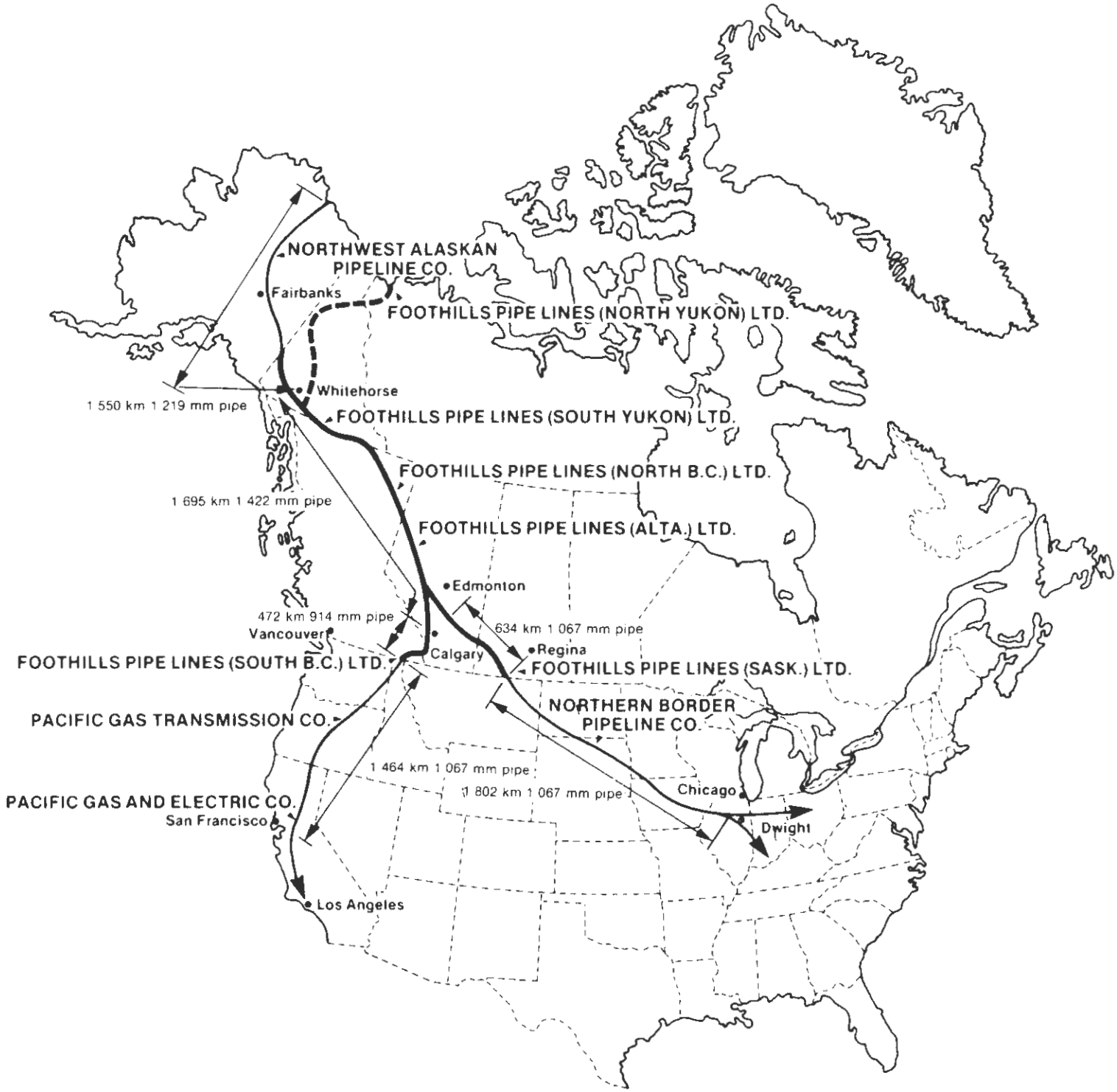
ALASKA HIGHWAY
NATURAL GAS PIPELINE PROJECT



See Project Description for imperial measurements

Overview of Developments in Canada and the United States Involving the Alaska Highway Gas Pipeline Project

A deterioration in market conditions in the United States for natural gas continued to have an adverse impact on the Alaska Highway Gas Pipeline Project during the fiscal year 1983-84, as it had during the previous year.

This applied both to the operations of the pre-built Eastern and Western Legs of the system, which were being utilized initially to transport surplus Canadian gas to California and the U.S. mid-west, and to planning for second-stage construction of the system to tap the immense gas reserves at Prudhoe Bay on the North Slope of Alaska.

Operations of the Eastern and Western Legs

The transmission of Canadian natural gas for export to California and the U.S. mid-west through the Eastern and Western Legs remained substantially below authorized volumes of some 32.11 million cubic metres (1.14 billion cubic feet) of gas a day and—by agreement between the contracting parties and regulatory authorities—well below the minimum take provided for by the U.S. Federal Energy Regulatory Commission (FERC).

The sharp cutback in exports through the pre-built sections of the Alaska Highway Gas Pipeline, as well as most other Canadian gas sales south of the border, reflected the heavy pressure on the vast majority of U.S. interstate shippers. This pressure was the result of a substantial drop in demand for natural gas due to such factors as economic recession, conservation, a series of mild winters, and competition from other energy sources—particularly residual oil and electricity. At the same time, a significant—if temporary—surplus of gas supplies from U.S. sources developed in response to increased wellhead prices.

Although there was a strong economic recovery underway during the fiscal year, which led to some pickup in industrial demand for natural gas and an upturn in residential requirements as a result of colder winter weather, total demand still remained well below the level of a few years ago.

While the base price of gas exports was reduced in April, 1983, by the Canadian government from U.S. $4.94 to $4.04 per million British Thermal Units (MMBtu) and subsequently an incentive pricing scheme established for certain incremental volumes of $3.40 per MMBtu, Canadian gas continued to face severe price competition in a number of U.S. markets. (In July, 1984, the government announced a new policy under which buyers and sellers had the option of negotiating individual pricing arrangements, effective as of the beginning of November, subject to the consideration of the National Energy Board and, ultimately, to the government's approval. Among other conditions, the new policy stipulated that the export price must not be less than the domestic price for gas delivered at the Toronto city gate under similar terms and conditions.)

In the United States, the competitive position of natural gas in relation to alternative energy sources was aggravated for an extended period by increases in the prices of many sources of gas under the provisions of the 1978 U.S. Natural Gas Policy Act at a time when worldwide conditions were putting downward pressure on oil prices. While the Reagan Administration pressed for deregulation of all natural gas prices in order to provide for their establishment by the forces of the marketplace, certain interests in Congress sought to tighten controls over gas prices and, in particular, to forestall the deregulation of all but so-called 'old' gas due to go into effect under existing legislation at the beginning of 1985.

In February, 1984, U.S. Secretary of Energy Donald Hodel issued new policy guidelines and delegation orders to govern the regulation of imported natural gas. Among other things, the guidelines stipulated that the key test in determining whether proposed new gas imports in future would serve the U.S. public interest was whether the agreements between buyer and seller "provide for the sale of gas in volumes and at prices (that are) responsive to market demands."

Under the 1977 U.S. Department of Energy Organization Act, the regulatory authority with respect to imports of natural gas was largely transferred from the old Federal Power Commission to a new body known as the Economic Regulatory Administration (ERA). An exception was made, however, in the case of any imports of gas through the Alaska Highway Pipeline, which were made subject to the regulatory control of the newly-created Federal Energy Regulatory Commission. Under the delegation orders issued in February, Secretary Hodel transferred responsibility with respect to imports via the Eastern and Western Legs from the Commission to the ERA.

Some months prior to the transfer of this responsibility, the Minister then responsible for the Northern Pipeline Agency, Sen. H.A. (Bud) Olson, requested the undertaking of consultations with the U.S. Administration as provided for under the Canada-U.S. Agreement of 1977. The Minister sought these consultations to discuss particular problems that had arisen with respect to the Eastern Leg because of the high rate of depreciation being charged on the system in the United States. This high depreciation rate, which was geared to amortize the system during the limited period for which throughput had been contracted and approved by both countries, resulted in exceptionally high transportation costs. These high toll charges, in turn, further compounded the problem of declining exports of gas through the line caused by the market problems outlined earlier.

Consultations on this matter were held in Washington in November, 1983. At the direction of Sen. Olson, the Canadian delegation was headed by the Hon. Mitchell Sharp, Commissioner of the Northern Pipeline Agency, who was joined by C. Geoffrey Edge, Chairman of the National Energy Board. The U.S. delegation was headed by Raymond Hanzlik, Administrator of the Economic Regulatory Administration.

U.S. officials at the time undertook to explore various means of alleviating the problem raised by the Canadian delegation. Subsequently, the FERC conditionally approved a four-year extension of imports of Canadian gas through the pre-build system in line with parallel export extensions approved by the National Energy Board of Canada in January, 1983. As a result of this action, provisions were made for reducing the rate of depreciation on the U.S. portion of the Eastern Leg and undertaking a commensurate reduction in toll costs.

(In the spring of 1984, three competing proposals were put forward for transporting new Canadian gas exports to the northeastern mid-west U.S. market approved by the National Energy Board in January, 1983, all of which involved utilization of the Eastern Leg to move all or part of additional volumes. The proposed increase in throughput would have the effect of increasing the efficiency of the system by reducing prevailing high unit transportation costs.

(TransCanada PipeLines proposed to transport some 24 million cubic metres (655 million cubic feet) of gas a day to the northeast market through expansion of its own system and that of its U.S. affiliate, Great Lakes Gas Transmission. Its application to the National Energy Board involved the transportation of some 11 million cubic metres (385 million cubic feet) of gas a day for export to the U.S. mid-west market through the Eastern Leg rather than exporting it at Emerson, Manitoba, via Great Lakes, as originally proposed. By contrast, two competing U.S. groups advanced proposals for utilizing the existing Eastern Leg facilities and an expansion of their own network of pipeline to transport the gas contracted for sale in the northeastern U.S. market. One group was made up of Northern Border Pipeline Co., owner of the Eastern Leg of the Alaska Highway Pipeline in the United States, ANR Pipeline Co. and the Northern Natural Gas Co. The other scheme was proposed by MidCon Corporation, a subsidiary of the Natural Gas Pipeline Co. of America.)

Second-Stage Construction Plans

Planning for second-stage construction of the pipeline—which primarily involves construction of the northern segments from Prudhoe Bay on the coast of the Beaufort Sea in Alaska to join with the pre-built Eastern and Western Legs just north of Calgary, Alberta—continued throughout the fiscal year in both Canada and the United States, but at a much reduced pace. As in 1982-83, the depressed gas market in the United States continued to impede progress in moving toward implementation of the second-stage of the undertaking.

In the early fall of 1983, the future of the project was called into question with the bid by The Williams Companies to take control of the Northwest Energy Co. Under the Chairmanship of John G. McMillian, the latter company had played the lead role in bringing together the consortium of pipeline companies that supported the building of the Alaskan portion of the pipeline system. This was the Board of Partners of Alaskan Northwest Natural Gas Transportation Co. Northwest Alaskan Pipeline Co. acted as operating agent on behalf of the partnership.

Although the take-over bid was initially contested by Mr. McMillian and other directors, in the end it was accepted amicably. In October, Joseph H. Williams, Chairman and Chief Executive Officer of The Williams Companies, was elected Chairman of Northwest Energy. Vernon T. Jones, Executive Vice-President of Williams, was elected President and Chief Executive Officer of Northwest. Mr. Jones also became Chairman of the Board of Partners representing the pipeline consortium sponsoring the pipeline in Alaska.

Soon after their election, the new officers of Northwest Energy hastened to assure government authorities in both the United States and Canada of their own strong support for the Alaska Highway Pipeline Project. At the time, prospects for proceeding with second-stage construction were cast into doubt not only by the unsettled market conditions in the continental United States, but also by a proposal being advanced by former Alaska Governor Walter J. Hickel for a pipeline to transport Prudhoe Bay gas to the south coast of the state, where it would be liquefied and transported to the Far East by LNG tankers. A variant of that proposal envisaged gas from the North Slope being utilized both for transmission to Japan and other Far Eastern countries as LNG and to supply the Alaska Highway Pipeline if, as and when that project became economically feasible.

These issues were raised for consideration before a sub-committee of the Senate Committee on Energy and Natural Resources in Washington in mid-November, 1983. In his testimony, Mr. Jones told the Committee that the consortium believed the Alaska Highway Pipeline "remains today, as it was in 1977, the best choice, in fact the only realistic choice for marketing North Slope Alaskan gas." He maintained it was unrealistic to believe that the gas reserves available in northern Alaska would support both exports in the form of LNG and the supply of markets in the lower 48 states via the pipeline.

"In summary, we are convinced that, at the appropriate time, Alaskan gas can be delivered to the lower 48 states at market clearing prices," Mr. Jones said. "We believe that this will occur when the perceived fuels 'glut' disappears and forecasts of future shortages in the lower 48 states become more widely accepted. We believe that such shortages *will* occur, and this is a view shared increasingly by responsible authorities."

Testifying during the same hearing, Sidney J. Reso, Senior Vice-President of Exxon U.S.A., one of the three major owners of Prudhoe Bay reserves, said his company "seriously question the commercial viability of an LNG export project ..." Mr. Reso maintained that Alaskan gas would be needed early in the 1990s to offset declining U.S. supplies from the lower 48 states. "Our forecasts are that production of natural gas in the United States will begin to decline after 1985 and will continue to decline in the 1990s even assuming that the ANGTS (Alaska Natural Gas Transportation System) is completed and Alaska gas is available to the contiguous United States in the early 1990s."

(In May, 1984, the Yukon Pacific Corp. filed an application with the U.S. federal government for a right-of-way for a proposed 1320 km (820 mi) pipeline to transmit natural gas from Prudhoe Bay to southern Alaska, where it would be liquified and shipped by LNG tankers to countries in the Far East.)

During the course of the fiscal year, the sponsors of the Alaska Highway Pipeline Project in the State of Alaska concluded that the system could be built at significantly lower cost than earlier estimated. In part, this was due to the reduction in forecast costs because of a sharp drop in the rate of inflation and also a substantial decline in the level of interest rates from the record levels reached earlier in the 1980s. In part, the cost saving was the result of a decision announced in August, 1983, to adopt a new process for conditioning

the gas from the wellhead prior to its delivery to the pipeline. This revised design of the conditioning plant, which is required to remove such substances as moisture, carbon dioxide and natural gas liquids (propane, butane, etc.), would reduce the number of component units by one-third, reduce delivery time of those components from three years to two, and reduce capital costs by around $1 billion, which in turn would lead to a reduction in the costs of capital used during construction. The new system would also result in lower operating costs.

In addition to the studies that led to the revision in plans for the conditioning plant, the consortium in Alaska continued to develop engineering design criteria and environmental plans for consideration by the Office of the Federal Inspector, the U.S. counterpart in certain respects to the Northern Pipeline Agency. Much of this technical work focussed on engineering considerations related to mitigating the impact of frost heave—a condition created when gas below freezing temperatures causes frost to build up around a pipeline in unfrozen, moisture-laden soils, which can create stresses on the pipe that may result in a fracture.

As of the end of March, 1984, the Office of the Federal Inspector had a staff of 23 employees in its main office in Washington and in regional offices in Irvine, California, and Fairbanks and Anchorage, Alaska.

As outlined more fully in the section that follows, activities in Canada related to the second stage of the pipeline were very limited in view of uncertainties as to when the project might begin to be rejuvenated. Much of the focus of the Canadian sponsor, Foothills Pipe Lines (Yukon) Ltd., was on monitoring the results of thaw-settlement tests at its Quill Creek experimental site in Yukon and on certain studies related to the optimal size of pipe and pipeline pressure in the case of the northern segments of the system. One of the primary concerns of the Northern Pipeline Agency was the granting in late 1983 by the federal government of the easement for the right-of-way of the pipeline throughout Yukon. While a number of Agency staff was seconded on a full or part-time basis to other government departments and agencies, by the end of the fiscal year the number of staff actually engaged in operations of the NPA had been reduced to around 15 from a peak of more than 100 some two years before. The NPA's regional office in Vancouver was closed down at the end of the fiscal year (and its office in Whitehorse two months later).

Operations of the Northern Pipeline Agency

Agency Activities

The scaling down of the activities of the Northern Pipeline Agency that was first initiated in the previous fiscal year continued throughout 1983-84 as a result of the completion of construction of the Eastern and Western Legs and the delay in proceeding with Phase II construction of the northern segments, which led to a sharp reduction in the planning, design and engineering activities being undertaken by Foothills.

During the last fiscal year, as outlined in more detail in the following section, several members of the staff of the Agency were seconded on a full or part-time basis to other government departments or agencies. By year's end, the number engaged in the activities of the NPA was the equivalent of 15 person-years, down from a peak of more than 100 in mid-1982. As noted earlier, the Agency's Vancouver office was closed down on March 31, 1984, (which was followed by the closing a few months later of the NPA's Whitehorse office following the closure of Foothills' office in the Yukon Capital).

Following is an outline of some of the more significant activities in which the Agency was engaged during the year and of developments that affected it.

Grant of Easement in Yukon to Foothills

One of the major undertakings in which the NPA was engaged during the year was that of assisting in the preparation of the complex documentation required for the grant of easement to Foothills by the Governor in Council covering the right-of-way through Crown land in Yukon. The grant of easement and the related proclamation providing for the coming into force of amendments to the Land Titles Act that formed part of the 1978 Northern Pipeline Act were undertaken in late November and early December, 1983.

The granting of the easement for the right-of-way of the pipeline followed an earlier decision in March, 1983, by the Hon. H. A. (Bud) Olson, Minister responsible for the Northern Pipeline Agency, approving the route of the 830 km line through southern Yukon following extensive study of many geotechnical, environmental and socio-economic factors over a period of several years. In late December, 1983, the then Minister of Indian and Northern Affairs, the Hon. John Munro, announced that the development freeze imposed on an eight-kilometre corridor straddling the proposed route of the line through Yukon would be lifted late in June, 1984. The effect was to narrow the restriction on development to the 240-metre width of the pipeline right-of-way covered by the easement.

Quill Creek Test Facility

One of the major pre-construction undertakings by Foothills in Yukon was the establishment in 1981 of extensive facilities at Quill Creek, some 25 km northwest of Burwash Landing, to test a variety of aspects of pipeline construction and design in the North. Of particular concern has been the effect of transmitting gas at above-freezing temperatures through various designs and modes of pipeline installed above and below ground in areas of moisture-laden permafrost so

as to determine the most technically and economically feasible means of avoiding or minimizing the problem of thaw settlement—the settlement of the pipe due to the melting of surrounding permafrost by the warm gas and subsequent erosion of the soil.

Data from the test facility continued to be gathered by automatic, remote electronic read-outs and by periodic, on-the-spot examinations by the Foothills' employee stationed at the site. Since April, 1982, Foothills has submitted five reports to the Agency on various aspects of the test operations, including ground temperatures, measures and predicted thaw depths, and pipe heave and settlement. The reports have also covered observations on the trenches, backfill in the case of buried pipe, and pipe installed above ground in embankments and concrete restraints.

Engineering Activities

While construction of the pre-built Eastern and Western Legs of the pipeline was virtually all completed by the beginning of the fiscal year, the Agency had certain remaining responsibilities to carry out with respect to these projects.

In April, 1983, Agency personnel oversaw the scheduled program for testing of Compressor Station 391 at Richmound, Saskatchewan, the completion of which had earlier been delayed due to a strike among the building trade unions. Early in April, the company submitted revised and outstanding drawings of the station to the Agency to complete its fulfillment of the NPA's Engineering Order.

Following completion of the drawings and of the testing program, Foothills submitted to the NPA for its consideration Part II of the application it filed with the National Energy Board (NEB) for leave-to-open Compressor Station 391. A supporting recommendation by the NPA's Designated Officer was followed by granting of leave-to-open by the Board in May, 1983.

On behalf of the NEB, the Agency also observed a hydrostatic test conducted on a by-pass line constructed at Compressor Station 394 at Monchy, Saskatchewan. This by-pass line, which was installed with the approval of the NEB, is designed to enable Foothills to recirculate continuously part of the gas through the compressor as a means of compensating for lower volumes of gas flows through the line than the unit was originally designed to handle efficiently.

All "As-Built" drawings for the pre-build sections in Zone 6 (Eastern Leg, Alberta) and Zone 8 (Western Leg, South B.C.) were reviewed by Agency staff and received approval.

During the year, Foothills put forward for the Agency's consideration a number of consultants' reports and amendments to previously submitted or approved documents and drawings. These were related to liquefaction and slope stability studies undertaken by the company for selected construction sections and river crossing scour design criteria within the Yukon. The Agency staff completed its review of the documents, which were subsequently granted qualified acceptance or approved by the Designated Officer, as appropriate.

Environmental Monitoring

The Environmental Group inspected all sections of the Eastern and Western Legs between April and October, 1983, in accordance with the NPA's mandate to monitor the condition of the pipeline right-of-way for one year following leave-to-open. A final report outlining the detailed findings of the group by construction segment was submitted in December, 1983. In general, the report found that in Alberta and Saskatchewan the right-of-way was in excellent condition, that revegetation was adequate for erosion control and that full replacement of habitat conditions of benefit to wildlife will be achieved in one to two years. No action other than regular inspection and maintenance by Foothills was required. In South B.C., revegetation on the whole was also found to have been successful. However, in areas where the pipeline right-of-way traverses very steep slopes and physical barriers have been installed to provide additional erosion control, there may be a requirement to undertake maintenance for some years following spring run-off. The inspection revealed that water crossings by the pipeline were in good condition and that there were no significant changes to drainage patterns as a result of pipeline construction. In a few instances, Foothills has taken action to remedy interference caused to the movement of groundwater.

Finance, Personnel and Official Languages

Finance and Personnel

Section 12 of the *Northern Pipeline Act* provides for an annual audit of the accounts and financial transactions of the Agency by the Auditor General of Canada and for a report thereon to be made to the Minister. Section 13 of the Act requires the Auditor General's report to be laid before Parliament, together with the Minister's annual report on the operations of the Agency. To comply with these requirements, the report of the Auditor General of Canada on the accounts and financial transactions of the Northern Pipeline Agency for the year ended March 31, 1984, is reproduced as Appendix A.

Estimates for 1983-84 provided $5.6 million and 75 person-years for the operation of the Agency. Actual expenditure was $5.4 million and 63 person-years were utilized in carrying out the services of the Northern Pipeline Agency. Included in expenditures were employment termination costs of $648,000 incurred as a result of the further reduction in staff that was undertaken because of the continuing reduction in the activities of the Agency due to the completion of construction of the first stage of the Alaska Highway Gas Pipeline Project and continuing delays in the scheduled commencement of the second stage of the northern segments.

Section 29 of the *Northern Pipeline Act* provides for recovery of the costs of the Agency from the company constructing the pipeline in accordance with regulations made under subsection 46.1(2) of the *National Energy Board Act*. During the year, recoveries totalling $5.7 million were made. Of this total, $4.3 million was recovered from Foothills in keeping with the provisions of the *Northern Pipeline Act*, which represented the unrecovered balance from the previous fiscal year and part of the 1983-84 expenditures by the Agency. The additional recovery of $1.4 million comprises mainly recoveries from various other departments and agencies of the federal government to which certain NPA employees had been seconded as part of the phasing down of Agency activities. All recoveries were credited to the Consolidated Revenue Fund.

Official Languages Plan

Although the Northern Pipeline Agency is a separate employer under Part II of the *Public Service Staff Relations Act* and is not subject to the *Public Service Employment Act*, the language policies and procedures established for other government departments and agencies have generally been applied. In addition, the Agency conforms as fully as possible with the provisions of the Official Languages Act.

These policies are contained in the Agency's Official Languages Plan and are being monitored each year. It is becoming progressively more difficult to comply with the Plan as the staff of the Agency is reduced to a skeleton basis pending resumption of construction of the pipeline. However, to the extent possible, the Plan has remained in effect.

In order to allow members of the public to comment on the linguistic aspect of services provided, enquiries may be made by telephoning (613) 993-7466 or by writing to the Head Office of the Northern Pipeline Agency, Station 210, Centennial Towers, 200 Kent Street, Ottawa, Ontario, K1A 0E6.

AUDITOR GENERAL OF CANADA

VÉRIFICATEUR GÉNÉRAL DU CANADA

AUDITOR'S REPORT

The Honourable Don Mazankowski, P.C., M.P.,
Minister responsible for the Northern Pipeline Agency

I have examined the statement of expenditure and receipts of the Northern Pipeline Agency for the year ended March 31, 1984. 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, this statement presents fairly the expenditure and receipts of the Agency for the year ended March 31, 1984 in accordance with the accounting policies set out in Note 2 to the statement, applied on a basis consistent with that of the preceding year.

Kenneth M. Dye, F.C.A.
Auditor General of Canada

Ottawa, Canada
September 15, 1984

NORTHERN PIPELINE AGENCY

Statement of Expenditure and Receipts
for the year ended March 31, 1984

	1984	1983
Expenditure (Note 3)		
Salaries and employee benefits	$4,119,417	$4,789,364
Rentals	727,907	733,354
Travel and communication	251,987	542,788
Professional and special services	231,508	351,217
Materiel and supplies	29,696	114,623
Information	21,237	44,257
Furniture and equipment	8,160	48,227
Other	24,471	66,051
	5,414,383	6,689,881
Receipts		
Recovery of costs from Foothills Pipe Lines (Yukon) Ltd. (Note 4)	4,300,422	6,893,422
Secondment of Agency staff	1,310,912	609,759
Other recoveries	98,469	8,024
	5,709,803	7,511,205
Excess of receipts deposited to the Consolidated Revenue Fund over expenditure out of the Consolidated Revenue Fund	$ 295,420	$ 821,324

Approved by:

Commissioner

Chief Financial Officer

NORTHERN PIPELINE AGENCY

Notes to Statement of Expenditure and Receipts
March 31, 1984

1. Authority and objective

The Agency was established in 1978 by the Northern Pipeline Act (S.C. 1977-78, c. 20). The objective of the Agency is to facilitate the efficient and expeditious planning and construction of the Alaska Highway Gas Pipeline in a manner consistent with the best interests of Canada as defined in the Act.

2. Accounting policies

Expenditure

Expenditure includes the cost of work performed, goods received or services rendered prior to April 1, except for the costs of the employees' contingency and termination plans which are charged to expenditure when paid. Capital acquisitions are charged to expenditure in the year of purchase. Expenditure also includes any costs incurred on behalf of the Agency by government departments, except for contributions to employee benefit plans which are based on budgeted salary costs. All expenditure is financed by parliamentary appropriations and government departments which provided services without charge.

Receipts

Receipts are recorded on a cash basis and are credited to the Consolidated Revenue Fund. Recovery of costs from Foothills Pipe Lines (Yukon) Ltd. is based on quarterly billings.

3. Expenditure

Expenditure for the year was provided for as follows:

	1984	1983
Parliamentary appropriations		
Economic Development		
Vote 5—Program expenditures	$5,150,400	$8,871,000
Statutory—Contributions to employee benefit plans	426,000	654,000
	5,576,400	9,525,000
Lapsed in accordance with Section 30 of the Financial Administration Act	162,017	2,835,119
	$5,414,383	$6,689,881

4. Recovery of costs from Foothills Pipe Lines (Yukon) Ltd.

	1984	1983
Costs recoverable for the year		
Expenditure for the year	$5,414,383	$6,689,881
Adjustment in respect of employee benefits	—	(641,000)
Secondment of Agency staff	(1,310,912)	(609,759)
Other recoveries	(98,469)	(8,024)
	4,005,002	5,431,098

Costs to be recovered in the following year	(160,227)	(455,647)
Prior year costs recovered in the current year	455,647	1,917,971
	$4,300,422	$6,893,422

The Agency's share of employee benefits paid to the government since 1978 has exceeded the actual employer's share. As a result, costs recoverable for the year ended March 31, 1983 have been adjusted accordingly.

5. Employees' contingency and termination plans

Contingency plan

Senior and certain other key employees who remain with the Agency until completion of their responsibilities and whose service exceeds two years are entitled to an allowance of 13% of accumulated salary received. Based on employees on strength who may become entitled to this benefit in the future, unpaid costs as at March 31, 1984 are estimated at $228,000 (1983—$105,000).

Termination plan

On July 15, 1982, Treasury Board approved a termination plan for employees who are separated due to the reduction of activities since May 1, 1982. The amount of termination allowance is based on years of service and includes an amount for relocation as necessary. Based on projected terminations unpaid costs, including relocation costs, are estimated as follows:

Terminations during the year ending March 31, 1985	$ 575,000
Subsequent terminations	500,000
	$1,075,000

6. Reduction of activities

On May 1, 1982, the United States sponsors of the Alaska Highway Gas Pipeline and Foothills Pipe Lines (Yukon) Ltd. announced that the target date for completion had been set back two years to 1989 and all parties were to scale down their activities to correspond to a revised construction schedule.

In June 1983, when Foothills Pipe Lines (Yukon) Ltd. announced a further reduction in its activities over the next two years, the Agency made further reductions to scale down its activities to correspond to those of Foothills Pipe Lines (Yukon) Ltd.

The Agency has been able to reduce staff costs through secondments to other departments and by terminations. Certain other costs have also been reduced in the past two years.

7. Subsequent event

In June 1984, Northern Pipeline Agency entered into a new lease agreement with Petro Canada, resulting in a substantial saving over the next two years. The cost to surrender the sub-lease was $225,000.

The Role of the Northern Pipeline Agency

The Northern Pipeline Agency was established with the proclamation of the *Northern Pipeline Act* on April 13, 1978, for the purpose of overseeing the planning and construction of the Canadian portion of the Alaska Highway Gas Pipeline to provide access to the substantial Arctic natural gas reserves of both Canada and the United States.

In addition to creating the Agency, the Act provides the legislative authority required to implement the bilateral agreement of September 20, 1977, between the two nations, which governs the joint undertaking of the 9 000-km (5,500-mi.) system. A brief description of this system can be found in Appendix C.

The Agency was created as the principal instrument for carrying out the objects of the legislation approved by Parliament. The Agency's mandate is twofold. It is required to regulate the project and to facilitate the efficient and expeditious planning and construction of the system in Canada by the Foothills Group of Companies. It is also required to ensure that the project is carried forward in a way that will yield the maximum economic, energy and industrial benefits for Canadians with the least possible social and environmental disruption. In particular, the Agency is directed by the Act to take account of the local and regional interests of residents, especially native residents, in areas affected by the undertaking.

In an unprecedented step, the House of Commons in April, 1978, agreed to the establishment of a Standing Committee on Northern Pipelines to maintain continuing surveillance over the implementation of the *Northern Pipeline Act* and the operations of the Northern Pipeline Agency. The Committee has conducted several meetings following its formation in June of that same year to hear testimony from senior officers of the Agency and of the Canadian and United States project companies, as well as others.

In June, 1978, the Senate also adopted a motion for the establishment of a Special Committee on the Northern Pipeline with authority to "inquire into all matters relating to the planning and construction of the pipeline for the transmission of natural gas from Alaska and Northern Canada...". The Senate Committee also has held a number of hearings related to the project since its formation.

The Northern Pipeline Agency was established to provide a "single window" for the conduct of virtually all dealings at the federal level with the Foothills Group of Companies, which was authorized under the Act to undertake the project in Canada. In keeping with the provisions of the legislation, many of the regulatory powers of other federal departments and agencies relating to the planning, construction and operation of the Canadian system have been transferred to the Northern Pipeline Agency. The principal exception involves responsibilities reserved exclusively to the National Energy Board or shared between the Board and the Agency. In addition, the Agency is responsible for facilitating the co-ordination of activities bearing on the project that involve other arms of the federal government, other levels of government in Canada, and U.S. departments and agencies.

The management and direction of the Agency come under the authority of a Minister designated for this purpose by the Governor in Council. A Commissioner appointed by Order in Council serves under the Minister as his deputy in charge of the Agency. The Commissioner is based at the head office in Ottawa. The main operational office is located in Calgary and functions under the direction of an Administrator appointed by Order in Council, who initally was also responsible for the day-to-day direction of regional offices located in Vancouver, British Columbia, and Whitehorse, Yukon Territory. As provided for under the Act, a member of the National Energy Board serves as its Designated Officer, and also as a Deputy Administrator of the Agency. The Designated Officer exercises the powers of the Board that were delegated by it on July 27, 1978. Following a further delegation of authority from the Board in September, 1981, the Designated Officer also exercises those powers contained in Parts I, II and III of the Gas Pipeline Regulations with respect to the Alaska Highway Gas Pipeline: A list of the senior officers of the Agency as of the end of the fiscal year and the location of Agency offices can be found in Appendix D on Page 18.

Project Description

The Alaska Highway Gas Pipeline Project is a large-diameter system that will initially transport natural gas from the North Slope of Alaska across Canada to the lower 48 states. It will also provide access through the Dempster Lateral to Canada's own reserves in the Mackenzie Delta-Beaufort Sea area of the Northwest Territories as and when they are required.

In 1980, Canadian and U.S. authorities approved the early construction of the Western and Eastern Legs that make up the southern portions of the system initially to permit the export of surplus Canadian gas to U.S. markets. A brief outline of this first-stage construction is given below.

Foothills Pipe Lines (Yukon) Ltd. of Calgary, Alberta, is the parent company responsible for the Canadian portion of the project. It is owned equally by Nova, An Alberta Corporation, of Calgary, Alberta, (formerly known as the Alberta Gas Trunk Line Company Ltd.), and Westcoast Transmission Company Ltd., of Vancouver, British Columbia.

The mainline system in Canada has been or will be built in five segments by the following subsidiary companies:

Foothills Pipe Lines (South Yukon) Ltd.
Foothills Pipe Lines (North B.C.) Ltd.
Foothills Pipe Lines (Alta.) Ltd.
Foothills Pipe Lines (South B.C.) Ltd.
Foothills Pipe Lines (Sask.) Ltd.

A sixth subsidiary, Foothills Pipe Lines (North Yukon) Ltd., will build the Dempster Lateral if and when it is approved by the National Energy Board.

In the United States, the Alaskan segment will be built and operated by the Northwest Alaskan Pipeline Company on behalf of the Alaskan Northwest Natural Gas Transportation Company. South of the 49th parallel, Northern Border Pipeline Company, a consortium made up of four U.S. transmission companies and one Canadian company, TransCanada PipeLines Ltd., has already constructed most of the planned Eastern Leg of the system. Two California companies—Pacific Gas Transmission Company and its parent corporation, Pacific Gas and Electric Company—have completed first-stage construction on the Western Leg in the United States.

The mainline project will comprise almost 7 720 km of pipe in the two countries. The diameter of the pipe will be of 1 422, 1 219, 1 067 and 914 mm. A total of approximately 3 270 km will be in Canada, 1 180 km in Alaska and 3 270 km in the United States south of the 49th parallel.[1] An additional 1 200 km of 860 mm pipe will be laid when and if the Dempster Lateral is approved.

[1] The total project will comprise almost 4,790 miles of 56-, 48-, 42- and 36-inch pipe. Approximately 2,030 miles will be in Canada, 730 miles in Alaska and 2,030 miles south of the 49th parallel. The Dempster Lateral would comprise approximately 746 miles of 34-inch pipe.

The mainline through Canada will consist of the following lengths and diameters.[2]

Yukon	375 km of 1 219 mm
	443 km of 1 422 mm
B.C. (North)	715 km of 1 422 mm
Alberta	634 km of 1 422 mm
	377 km of 1 067 mm
	301 km of 914 mm
Saskatchewan	258 km of 1 067 mm
B.C. (South)	171 km of 914 mm

The pipeline in Alaska will be approximately 1 180 km of 1 219 mm pipe. In the lower 48 states, the Eastern Leg will consist of almost 1 800 km of 1 067 mm pipe and the Western Leg will involve about 1 470 km of 1 067 mm line.[3]

The system is designed so that when fully powered it would be able to carry 68 million cubic metres per day (2.4 billion cubic feet per day) of Alaskan gas and, if the Dempster Lateral is approved, an additional 34 million cubic metres per day (1.2 billion cubic feet per day) of Canadian Mackenzie Delta-Beaufort Sea gas.

The capital costs for the entire system, excluding those for the Dempster Lateral from the Mackenzie Delta and the gas conditioning plant at Prudhoe Bay, Alaska, were originally estimated to be $10.7 billion (Cdn.). This estimate reflected a cost of $4.3 billion for the Canadian segments and $6.4 billion for the U.S. segments. These estimates were based on the assumption that the entire system would be completed and ready to go into operation by January, 1983, as provided for in the timetable envisaged in the Canada-United States Agreement.

In testimony prepared for the congressional committee hearings on the U.S. legislation waivers in October, 1981, John G. McMillian, Chairman of the Alaskan Northwest Natural Gas Transportation Co., indicated that approximately $38.7 billion to $47.6 billion (U.S.) would be required to construct the entire system in both countries, including the gas conditioning plant and the $2.4 to $2.7 billion estimated for first-stage construction. Estimates of the amounts needed for financing purposes were based on a range of inflation and interest rates in the United States from 7 per cent to 11 per cent and 10 per cent to 14 per cent, respectively, and on a revised-in-service date of late 1986.

A submission by Foothills Pipe Lines (Yukon) Ltd. to the congressional committee hearings estimated that approximately $17.6 billion on an escalated basis would be required to finance the entire Canadian section, based on a late 1986 completion date. Foothills subsequently indicated in testimony before the Special Committee of the Senate on the Northern Pipeline in May, 1982, that the Canadian sections would cost approximately $19 billion (Cdn.) in as-spent dollars given a 1987 completion date.

The pipeline sponsors in Canada and the United States had yet to file revised cost estimate with their respective regulatory authorities by the end of the fiscal year under review to reflect the further extension of the completion date to late 1989.

The map found on page vi provides a description of the proposed pipeline route.

First-Stage Plan for Construction of the Southern Sections

The first-stage plan provided for construction in Canada and the United States of all or part of the proposed Western and Eastern Legs of the system from the point where they branch off from the main line 105 km (63 mi.) north of Calgary, Alberta.

The first-stage program involves the laying of some 2 992 km (1,858 mi.) of pipe in Canada and the United States, of which 850 km (526 mi.) are in Canada. Capital costs are estimated at approximately $1.4 billion (U.S.) for the American section and $928 million (Cdn.) for the Canadian. Costs for the Canadian sections include provision for actual funds used during construction, as well as certain other expenses associated with regulatory charges. The system will be capable of transporting some 32.11 million cubic metres (1.14 billion cubic feet) of Alberta gas a day to U.S. markets, rising to a possible peak flow between 1983 and 1986 of 38.03 million cubic metres (1.35 billion cubic feet).

Construction of the Western Leg in Canada, which began in August, 1980, involved the installation of seven loops over a distance of 215 km (132 mi.) of pipe, 914 mm (36 in.) in diameter. Work on this section was completed in the spring of 1981.

[2] Yukon 233 mi. of 48 in., 275 mi. of 56 in.; B.C. (North) 444 mi. of 56 in.; Alberta 334 mi. of 56 in., 234 mi. of 42 in., 187 mi. of 36 in.; Saskatchewan 160 mi. of 42 in.; B.C. (South) 106 mi. of 36 in.

[3] The pipeline in Alaska will be approximately 730 miles of 48-inch pipe. In the lower 48 states, the Eastern Leg will consist of almost 1,120 miles of 42-inch pipe and the Western Leg will involve about 911 miles of 42-inch line.

Construction of the U.S. Western Leg, which began in December, 1980, involved the installation of 258 km (160.5 mi.) of loops to the Pacific Gas Transmission pipeline from the Canadian border point at Kingsgate, B.C., to Stanfield, Oregon. From Stanfield, the Canadian gas is being transported to southern California through the addition of some 565 km (361 mi.) of loops to Northwest Pipelines and El Paso Natural Gas, which has been designated the Western Delivery System. For purposes of transmission of Alaskan gas on the Western Leg, the Pacific Gas Transmission and Pacific Gas and Electric systems will be further extended from Stanfield to Antioch, California, which is close to San Francisco. On October 1, 1981, gas began to flow through the Western Leg to U.S. markets.

The Eastern Leg, in Canada and the United States, is comprised of 1 956 km (1,215 mi.) of 1 067-mm (42-in.) pipe. Construction began in both countries in May, 1981, and was to be completed over a two-year construction period. Gas began to flow through the system on September 1, 1982.

Northern Pipeline Agency

Senior Officers and Office Locations

Ottawa—Head Office
The Hon. Mitchell Sharp, P.C., Commissioner,

Centennial Towers (Station 210)
200 Kent Street,
Ottawa, Ontario,
K1A 0E6

Calgary—Operational Headquarters
Mr. William A. Scotland, Deputy Administrator and
Designated Officer,
Mr. A. Barry Yates, Deputy Administrator.

Suite 450,
101-Sixth Avenue Southwest,
Calgary, Alberta.
T2P 3P4