

Crew running pipe at Imperial Oil's drilling site at Tuktoyaktuk. Men are working in temperatures as low as 60°F. below zero. Imperial Oil photograph used in a filmstrip series entitled "The Living Arctic" produced by International Cinemedia Center, Ltd., in cooperation with The Arctic Institute of North America.



## Northern Pipelines : The Canadian Position

WM. J. FOX<sup>1</sup>

Canada has found itself at the centre of a vortex as it faces decisions about transportation of oil and natural gas through its arctic territories. The massive oil find at Prudhoe Bay in June of 1968 has led to controversy about getting Alaska crude to market and one of the alternatives proposed is a pipeline through Canada. Natural gas is associated with oil at Prudhoe — gas is a fuel which creates little air pollution and is in short supply in the United States. If this gas is to be piped to markets a line would have to cross Canada.

Meanwhile within the Canadian Arctic an enormous exploration program is under way and already three natural gas fields have been found. Their extent is not yet known, but they are, nevertheless, major factors in planning the future of the Arctic.

Those concerned about the environment naturally fear that irreversible decisions detrimental to Canada might be taken in haste and repented at leisure. Those concerned about air pollution in North America fear that natural gas will not be allowed to play its potential role in clearing the skies. People who believe that the future of the North lies in developing an economy based on natural resources are naturally eager to see those resources marketed. There are many opinions about many aspects of the impact of gas, oil and the attendant pipeline systems. All must be heard and taken into account in making decisions which lie ahead.

There have been many estimates of the cost of possible pipelines through the North. A gas line from Prudhoe Bay to connect with the nearest main gas transmission line could cost \$1.5 to \$2 billion. A major gas line from the Arctic Islands to reach out to major markets in the Middle West or the East could cost \$4 to \$6 billion. An oil line to a major Northern field could cost \$3 to \$6 billion depending on where the field is located and which markets the crude would serve. Decisions on projects of such a major financial scale are complex and difficult; Canada's entire economy could be affected by them.

Many departments of government have an interest in one or more aspects of these decisions; many fields of knowledge must be searched for the information on which decisions will be based. The Department of Indian Affairs and Northern Development, the Department of Energy, Mines and Resources, the Department of the Environment, the National Energy Board, the Ministry of Transport and the Department of Finance all have major roles to play. Oil- and gas-producing companies, pipeline operators, contractors who instal pipelines and their attendant facilities, those who serve northern transportation and those who supply northern needs are all involved.

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<sup>1</sup>Canada Department of Indian Affairs and Northern Development, Northern Economic Development Branch, Ottawa.

All Canadians have a stake in what happens, but Northerners will be particularly affected by decisions which must be made by technicians and experts because of the complexities of the problems. Any such massive developments, so different from anything they have yet seen, will have profound effects on northern societies, and it is essential that we thoroughly understand the impact pipelines would have on the people, the natural land, and the fish and wildlife that make it their home.

With so many of the important outcomes unknown, we would be as foolish to say "yes" before we have grasped all the implications, as we would to say "no" before we understand all the benefits. Costs and benefits must be weighed even though they may occur in quite different fields from one another. Only when all the questions have been raised, answers given and those answers carefully assessed can sound decisions be taken.

With the advantage of hindsight it is easy to see that the backers of the proposed Alaska pipeline failed to provide themselves with sufficient data beforehand. It is obvious that too much time passed before the right questions were asked. Assessment of the answers now given is a task for the United States government; there are important lessons to be learned from the process. The Canadian government has taken the position that it must be given satisfactory answers to the questions it puts to anyone who proposes to build a pipeline. It must be in a position to ask the right questions and to assess the answers it is given.

So that those concerned will be able to make effective proposals, guidelines were issued in August 1970 by the Honourable Jean Chrétien, Minister of Indian Affairs and Northern Development, and the Honourable Joe Greene, Minister of Energy, Mines and Resources. The guidelines relate to oil or gas pipelines north of the 60th degree of latitude in the Yukon or Northwest Territories. They establish requirements with respect to environmental protection, pollution control, Canadian ownership and participation, and training and employment of resident northerners.

These are the guidelines that were announced:

- 1) The Ministers of Energy, Mines and Resources, and Indian Affairs and Northern Development will function as a point of contact between government and industry, acting as a steering committee from which industry and prospective applicants will receive guidance and direction to those federal departments and agencies concerned with the particular aspects of northern pipelines.
- 2) Initially, only one trunk oil pipeline and one trunk gas pipeline will be permitted to be constructed in the North within a "corridor" to be located and reserved following consultation with industry and other interested groups.
- 3) Each of these lines will provide either "common" carrier service at published tariffs or a "contract" carrier service at a negotiated price for all oil and gas which may be tendered thereto.
- 4) Pipelines in the north, like pipelines elsewhere which are within the jurisdiction of the Parliament of Canada, will be regulated in accordance with the National Energy Board Act, amended as may be appropriate.
- 5) Means by which Canadians will have a substantial opportunity for participating in the financing, engineering, construction, ownership and man-

agement of northern pipelines will form an important element in Canadian government consideration of proposals for such pipelines.

- 6) The National Energy Board will ensure that any applicant for a Certificate of Public Convenience and Necessity must document the research conducted and submit a comprehensive report assessing the expected effects of the project upon the environment. Any certificate issued will be strictly conditioned in respect of preservation of ecology and environment, prevention of pollution, prevention of thermal and other erosion, freedom of navigation, and the protection of the rights of northern residents, according to standards issued by the Governor General in Council on the advice of the Department of Indian Affairs and Northern Development.
- 7) Any applicant must undertake to provide specific programs leading to employment of residents of the North both during the construction phase and for the operation of the pipeline. For this purpose, the pipeline company will provide for the necessary training of local residents in co-ordination with various government programs, including on-the-job training projects. The provision of adequate housing and counselling services will also be a requirement.

The guidelines make clear that to begin with, only one trunk line for oil and one for gas will be permitted and if possible they will be routed in a corridor to be established when sources and destinations are clearer and when some of the environmental problems have been examined. But no decision on any of these things can be taken without satisfactory answers to many questions.

In order to be sure that the right questions *are* put to those who would build lines and that all factors *are* taken into account, the government established a Task Force on Northern Oil Development as early as 1968. This group brings together senior officials from the Departments of Energy, Mines and Resources, Indian Affairs and Northern Development, the Environment, the Ministry of Transport and the National Energy Board. It is their responsibility to ensure that government has access to expertise in all the areas of concern. The Task Force has set up five sub-committees: Environmental and Social, Economic Impact, Marketing, Marine Transport, and Pipelines. Research sponsored by a number of departments is being carried out. Some of it is new, some is a speed-up of projects already under way.

The magnitude of the proposals is so great that it would be impossible for government to undertake all the research that will be required. Nor is it necessary that all should be done at public expense. The principle underlying the government's approach is that it must do enough research to be able to ask the right questions and be in a position properly to assess industry and the answers they give. The major portion of the research will be up to those who wish to build pipelines.

The recent discoveries of natural gas on the Arctic Islands bring a new urgency to the task. Pipeline routes must be wisely chosen. Techniques of construction as well as design are of great concern. Sources of gravel, transportation of materials, the use of equipment and the location of bases for construction crews must be selected with care. And, as mentioned before, the effect such large scale activities

will have on the pattern of northern settlements and on their future life must be considered.

Problems of such a wide range require research of great variety. Since the various government departments which come together in the Task Force all have expertise which can be vital in making assessments, all have a vital part to play in the process of reviewing submissions.

The government research program falls into eight main categories: aquatic ecology; wildlife; hydrology; terrain investigations; vegetation; topographic, mapping and air photography; pipeline structural safety; and land use. This last covers environmental impact studies, environmental classification, terrain sensitivity, mapping, and the compilation of an environmental atlas of the Mackenzie Valley.

Studies on such matters as fish migration, spawning and rearing areas, species composition and current levels of contamination of fish in the Mackenzie Valley provide necessary baseline data for marine environments. Caribou migration patterns, habitat studies and an inventory of the Yukon wildlife resources will supply the needed information for questioning the effect of pipeline proposals on the fish and wildlife in the area. Social research is separate from these studies and requires the co-operation and co-ordination of many engaged in northern programs.

The Task Force on Northern Oil Development is the focal point for the departments concerned. With representatives of the various departments coming together, government can mobilize and deploy its capabilities in the disciplines involved.

It is not necessary here to go into the full details of each of these departments' responsibilities as they affect northern pipeline proposals. It is useful to point out that Indian Affairs has a residual responsibility in the North for all matters not specifically assigned to other departments or agencies and has a direct responsibility for co-ordinating the activities of federal departments, branches and agencies as well as having a close link with the Territorial Governments. It is the department that bears the main responsibility for development and social programs in the Territories, the department that controls Crown land over which any pipeline would have to pass, and it has a major role to play.

The National Energy Board has the responsibility to approve any export of petroleum products. The Department of Energy, Mines and Resources is intimately involved in the oil and gas industry in Canada. The role of the Departments of Finance and the Ministry of Transport is self-evident. The Department of the Environment has an obvious concern and is also responsible for the Canadian Wildlife Service. Perhaps the greatest burden will fall upon those concerned with social and environmental considerations. These cannot be entirely separated for they are bound up one within the other. It is said to be the nature of infinity that any part is equal to the whole; the interactions between environment and society have similar qualities, and may be the most difficult of all to assess.

Social change always creates temporary and sometimes permanent difficulties. Trying to assess the effects of a profound change and to predict individual, family and community reactions is never simple. Almost everyone admits that changes are bound to occur, but few agree on how prospective change is to be met.

The improvement of health services and living conditions has created over-

population in many northern areas. Diminishing game and falling fur prices have put strains on the capability of the most skilled hunter to earn a living from the land. There must be changes in the North to accommodate this new situation. Will pipelines and producing petroleum fields make such changes easier and more useful? Or will they complicate an already complicated situation?

There is general confusion about native rights and especially about claims based on aboriginal land. The Government has taken no decision on its stand in this respect. It does not confirm or deny the validity of the claims put forward. It does provide funds for native organizations to research the question and to formulate their views so that a reasonable judgement can be made.

The Indian people of the North are parties to treaties that provide for reserves and which have never been set aside. There is confusion as to the best way of settling this provision of the treaties and that is another subject which must be resolved. Not all the Indian people of the North believe that reserves would be in their own best interests.

Northern pipeline proposals will provide a focus for many economic, social and environmental questions. Resolution of them will shape the future of northern Canada and to a considerable extent will affect the economy of the whole country. Resolutions must come in the context of the time at which decisions are to be made. No-one can predict where the Canadian economy will be when the time of decision arrives; the task at hand is to ensure that all possible data are available on which to base the decisions.

Although the bulk of research and the answering of questions must be the responsibility of industry, the wide-ranging research program of government is a necessity, too. A great deal of information has been assembled over the years but this must now be re-analysed to bring it to bear on the immediate questions; new information is also needed.

Meanwhile industry has its responsibilities and appears to have recognized them fully. The four industry research programs will spend about \$25 million on technical and environmental research. These research projects are all designed to provide the data needed to make any submission acceptable to government and to reassure Canadians that the environment will be protected and each project will be in the national interest.

The requirement to employ Northerners has been emphasized by Mr. Chrétien on a number of occasions. Discussions have been held with the Canadian Pipeline Joint Advisory Committee which represents the contractors and the unions which provide the skilled men to build the lines. While it is important that northerners be given opportunities to work on the construction of the lines, it is doubly important that they have access to the permanent jobs which arise from operating them. The Alberta Gas Trunk Line Company Limited has hired a group of northerners to work on their line to give them experience so that if lines are eventually built in the far North, there will be experienced northerners available.

The advantages or disadvantages of northern pipelines could be debated endlessly. The risks can be diminished and possibly eliminated if adequate research is done. Only research can bring out the questions which must be asked. Only research can provide answers to those questions. Weighing the answers will call

for informed judgement. After all the pros and cons have been assessed a decision must be made; that decision must rest on judgement as to where Canada's best interests lie. The purpose of all the activity today is to bring forward the necessary information so that the ultimate decision will be based on wisdom and understanding.