

PIPELINE

Private Financing Aim of '77 Agreement

Completion of the Alaska Highway gas pipeline based on private financing has always been the firm intention of both Canada and the United States, says Mitchell Sharp, Commissioner of the Northern Pipeline Agency.

Sharp told a seminar on Canada-U.S. energy issues March 23 in Seattle, Washington that it is nonsensical to contend the United States government should provide financial assistance to ensure completion of the project.

"Not only would this amount to advocating a course that is completely contrary to existing U.S. law, it would be the most certain way of ensuring that entirely private financing would not be available. Months of work aimed at developing purely private funding would go out the window and, at the very least, many more months of delay encountered," he said.

Sharp was referring to the recent spate of skepticism surrounding President Reagan's statement in Ottawa March 11 in favor of "prompt completion of the project based on private financing." The Commissioner focussed on the pipeline as an example of a major international energy project which has weathered its full share of problems and the usual criticism of doubters and detractors.

"To put the case in perspective, let me point out that from the very beginning no one who had any close involvement had any illusion that seeing this project through to its successful completion would be an easy task. How could it be otherwise, considering the very immensity of the undertaking, the massive challenge of privately financing it, and the critical need at every stage for the close co-ordination of the effort on both sides of the border of the two federal governments and their regulatory agencies, dozens of state and provincial governments, and the multiplicity of private interests that provide the real driving force behind the venture?"

Despite the difficulties remarked Sharp, substantial progress has been made. Construction is well underway on the southern segments of the project, which comprise approximately one third of the entire pipeline for the initial purpose of shipping some 28.3 million cubic metres (one billion cu.ft.) a day of surplus Canadian gas to U.S. western and mid-western markets.

In Sharp's view the doubts raised with respect to completion of the project are linked to the question of the pipeline's ultimate cost and the marketability of the gas to be shipped through it. Although the Commissioner could not speculate on the eventual cost of the system, nor the likely initial cost of the gas flowing to U.S. markets, he emphasized the importance of relating gas costs to those of future fuel supplies.

"What needs to be borne in mind, however, is that the cost of that gas needs to be related not to current U.S. gas prices or current prices of alternative petroleum supplies such as heating oil, but to the price of alternative fuel sources - a substantial proportion of them imported from abroad - that may prevail in 1986 and beyond following completion of the Alaska Highway Pipeline."

Sharp explained it was foreseen that during the first few years the cost of Alaskan gas may exceed that of competing alternative supplies. "It was for that very reason that U.S. authorities

provided for the rolling in of Alaskan gas costs with that of other supplies from the lower 48 states as a means of providing for its marketability," he reminded his audience of 60.

"What it is essential to understand is that a substantial proportion of the cost of the gas initially delivered to U.S. shippers in the lower 48 states will reflect the initially high cost of transporting it from Prudhoe Bay to markets in the south. But as the capital costs of the pipeline become depreciated (which in the case of the southern segments will commence in 1981-82) the costs of transporting Alaskan gas will begin to decline quite dramatically. It is for this basic reason that virtually all the assessments I have seen have concluded that over the lifetime of the project the cost of gas from Alaska will almost certainly be substantially lower than alternative fuel supplies available to the United States in the years ahead."

In conclusion, Sharp reiterated his conviction that the undertaking of the

continued last page...



The Hon. Mitchell Sharp, Commissioner

American Update

The U.S. District Court of North Dakota ruled on April 2 in favor of the Office of the Federal Inspector (OFI) and the Federal Energy Regulatory Commission (FERC) in a lawsuit against the North Dakota Public Service Commission (PSC) concerning the route of the U.S. Eastern Leg through the state. Last fall, the PSC ordered the 444 km (276 mi.) route previously selected by the President and Congress be changed to avoid crossing the Missouri River and travelling through badland areas and the Killdeer Mountains further south.

In a joint suit, the OFI and FERC charged the PSC's authorization as unconstitutional. Northern Border Pipeline Company, sponsors of the U.S. Eastern Leg, filed a separate suit on similar grounds.

The April 2 ruling was based on oral argument heard March 9 in Bismarck, North Dakota.

Construction resumed April 1 on a section of the U.S. Western Leg near the Washington-Idaho border where work had been suspended since February 19 due to extremely muddy conditions caused by unusually mild, wet weather. Pacific Gas Transmission Company, sponsors of the first 985 km (612 mi.) portion of the U.S. Western Leg, says the delay will not affect completion of the first 259 km (161 mi.) section, scheduled for October 1, 1981.

The U.S. District Court in Minneapolis, Minnesota holds a hearing April 20 concerning a lawsuit filed March 13 by Northern Border Pipeline Company against Jackson County, Minnesota. The company has taken the county to court over the legal requirement that the eight km (five mi.) stretch of the Eastern Leg of the Alaska Highway pipeline crossing Jackson County be buried 1.8 m (six ft.) deep throughout. The company proposes to bury the pipe at .9 m (three ft.) except in areas where additional cover is needed to cross drain tiles, or underground water drainage systems.

The county maintains the extra depth is required to prevent interference with drain tiles. Northern Border, however, contends if the pipeline is buried at 1.8 m the high water table will create problems in trench construction. The court's decision is expected shortly after the hearing since pipeline construction on the lands in question is scheduled to begin May 1.

The U.S. Eastern Leg runs 1,770 km (1,100 mi.) southeast from the Canada-United States border near Monchy, Saskatchewan through Montana, North Dakota, South Dakota, Minnesota, Iowa and Illinois.

A draft of socio-economic stipulations developed by the Alaska State Pipeline Co-ordinator's Office was issued March 18 for comment to Northwest Alaskan Pipeline Company, the

builders of the 1,193 km (741 mi.) Alaskan segment of the gas pipeline. The draft stipulations include provisions for job training programs, business and employment opportunities for local residents, affirmative action programs, project health and safety plans, communications, transportation and housing plans and the establishment of local impact information centres. The state of Alaska is considering these stipulations as requirements for the lease for the right-of-way crossing of state land. Northwest Alaskan has not yet applied for the lease.

A grant of right-of-way for the crossing of federal lands along the initial 1,325 km (823 mi.) section of the U.S. Eastern Leg was signed March 11 in Billings, Montana. The agreement between the Department of the Interior's Montana Bureau of Land Management and Northern Border Pipeline Company, the consortium building the U.S. Eastern Leg, does not include the Fort Peck Indian Reservation in northeastern Montana. However, Northern Border has negotiated a separate agreement with the Fort Peck Indians for right-of-way crossing along 143 km (89 mi.) of reservation land. Formal approval by the federal Bureau of Indian Affairs is expected in April. Construction of the first phase of the pipeline begins in May in Montana, North Dakota, South Dakota, Minnesota and Iowa.

Fisheries Studies May Influence Construction Scheduling *by Rick Higgins*

Foothills Pipe Lines (South Yukon) Ltd. conducted winter fisheries studies in March on seven water courses along the south Yukon section of the Alaska Highway gas pipeline.

The purpose of the studies was two-fold: to determine if fish overwinter in the lower and central portions of the Koidern and Donjek Rivers near the Yukon-Alaska border and in the Swift River on the Yukon-British Columbia border; and to assess during winter the physical characteristics of pipeline crossing sites of the Logjam, McNaughton and Plate Creeks, also in southern Yukon. Physical features such as bank stability, ice

formation and the levels of dissolved oxygen and suspended solids in the water were recorded.

Results of these studies may affect pipeline construction and scheduling. The Swift River, Logjam, McNaughton and Plate Creeks are located in areas slated for summer construction, although a winter schedule is also under consideration.

In the Koidern and Donjek River areas, a winter construction schedule is proposed. Arctic Grayling, Burbot and Lake Whitefish are believed to overwinter in areas downstream of the pipeline crossing locations. Incubating

chum salmon eggs could also be affected if winter construction goes ahead.

This winter's Yukon fisheries studies are part of an ongoing program begun in 1977 by Foothills (South Yukon) to take environmental factors into account in determining the pipeline route, construction schedules and mitigative measures. Results of the March 1981 studies are expected within six months.

Construction of the 818 km (508 mi.) Yukon portion of the Alaska Highway gas pipeline is scheduled to begin in 1983.

Burwash Caribou Herd Monitored by Ken Ambrock

Studies Determine Seasonal Movements



Caribou hooves act as snowshoes to permit easy winter travel.

photo courtesy of Government of the Yukon Territory.

Studies conducted by the Yukon Wildlife Branch indicate approximately 100 mountain caribou of the Yukon's Burwash Uplands-Kluane Lake region cross the proposed route of the Alaska Highway gas pipeline.

Biologists and naturalists have raised concern over the protection of the Burwash caribou herd because of its location relative to the pipeline route and to the Quill Creek test facility of Foothills Pipe Lines (South Yukon) Ltd.

In September, 1978 the Yukon Wildlife Branch began a study to determine the movements of this population of mountain caribou and to assess the effect of future pipeline construction on the herd. To date approximately \$90,000 have been spent or committed to the study, mainly by the Yukon Wildlife Branch and, in part, by Foothills (South Yukon).

To determine where, when and how many animals cross the pipeline route, radio telemetry was used to track seasonal movements of the caribou. By this method animals are temporarily immobilized by a drug administered with a dart gun and then tagged with radio transmitter collars. The movements of collared animals are then traced by ground and aerial surveys. To date 23 caribou have been radio-collared. Additional information on the size of the Burwash herd has been obtained from aerial counts.

75 to 100 Caribou Cross Pipeline Route

The studies conducted thus far reveal the herd consists of some 300 caribou. About 75 percent of these animals summer on the Burwash Uplands, while 25

percent spend the summer near Brooks Arm on the east side of Kluane Lake. During the fall 75 to 100 caribou cross the proposed pipeline route to winter in the Brooks Arm area. Most of the movements appear to occur during November, December and January, and again in April and May when animals return to their summer grounds. Movements are very haphazard and sporadic and occur in small numbers. Unlike the Porcupine caribou of the northern tundra, Burwash caribou do not migrate great distances, at regular times and in large numbers.

Nevertheless the majority of animals seem to cross the pipeline route in a narrow 4.5 km (2.8 mi.) corridor between Glacier Creek and a point two km (1.2 mi.) southeast of Quill Creek. The Quill Creek test site actually lies outside the main path of the caribou movement. The caribou appear to spend little time in the vicinity of the pipeline route, but cross quickly to their destination in the Burwash or Brooks Arm areas.

Some biologists remain concerned, however, that activities associated with construction of the Quill Creek test facility and the pipeline may create stress which could have physiological effects on the caribou population. No scientific evidence to date supports this theory.

The Burwash caribou herd is considered to be an important part of the Yukon's wildlife heritage and efforts are being made wherever possible to ensure its protection. Foothills (South Yukon) began aerial surveys of the herd twice a week in November, prior to construction of the Quill Creek facility. The company, in co-operation with the Yukon Wildlife Branch, will continue these monitoring surveys during construction of the pipeline to add to the data collected to date on migration patterns and numbers of caribou. The information gathered will be useful in arranging construction schedules that will ensure minimum impact on the Burwash herd.

Telecommunications Planning Underway

A consortium of four telephone companies is studying proposals made by the Foothills group of companies for telecommunications service during construction and operation of the 3,270 km (2,031 mi.) Canadian portion of the Alaska Highway gas pipeline. Northwest Telecommunications Inc., B.C. Tel, Alberta Government Telephones and Sask Tel are collaborating to provide a system that can accommodate project-related demands.

High Speed Data Transmission Possible

Communications needs during construction involve telephone and radio link-ups between vehicles, camps, construction spreads and head offices to co-ordinate activities and movement of manpower and equipment along the line. Once the pipeline is built and the gas is flowing, a communications system possibly involving high speed data transmission will be required to control the operation of the pipeline. It will monitor and control compressor stations and valve units from central control stations.

To have a smoothly running telecommunications network in place in time, advance planning is essential, says Wally Gryba, Socio-Economic Manager for the Northern Pipeline Agency. The computerized telephone exchanges in the Yukon, Alberta, and Saskatchewan are capable of handling the increased load arising from pipeline construction activity, he explains. However, the land line circuits now serving communities along the Alaska Highway in northeastern British Columbia are already strained to the limit and break down frequently. "We have considerable concern about the situation in North B.C., when you consider that the pipeline-related load on that system will be immense," Gryba remarks.

The inadequacy of telephone service in northern B.C., especially between Watson Lake and Fort St. John, was often expressed during public hearings held by the Northern Pipeline Agency in the fall of 1979 on its proposed socio-economic and environmental terms and conditions. Presiding Officer W. Winston Mair recommended in his subse-

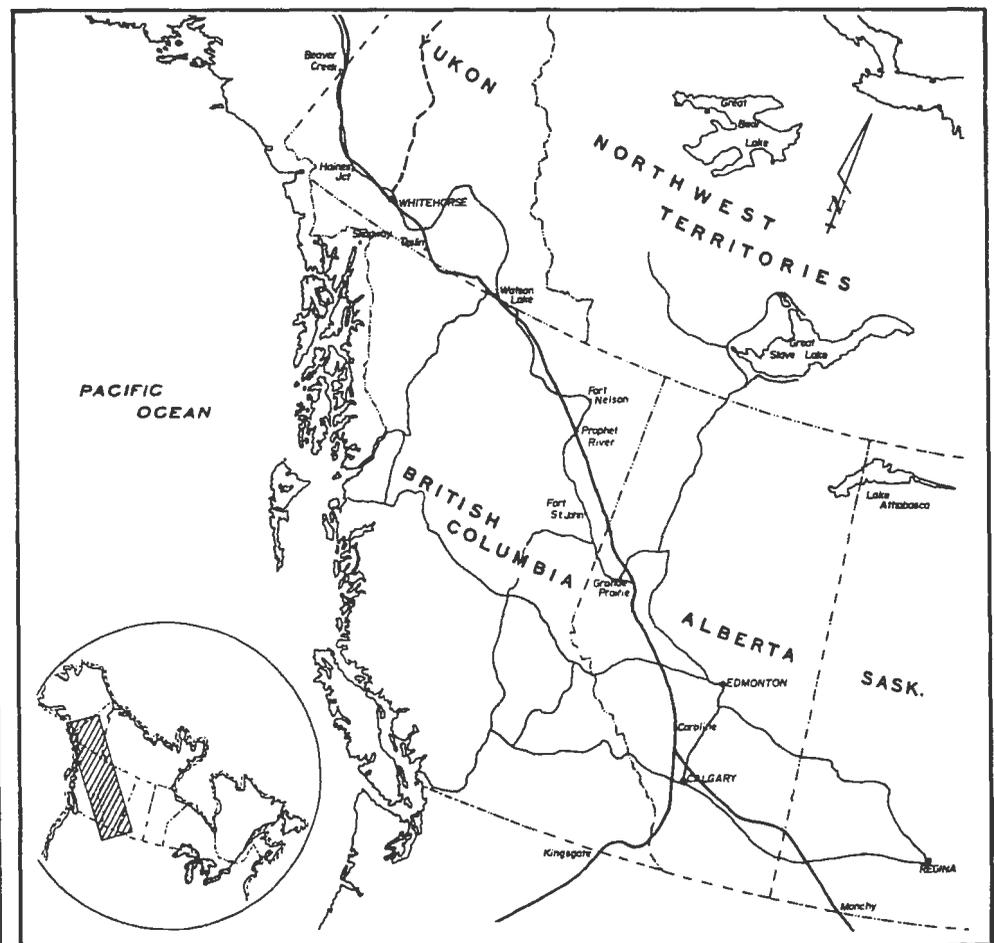
quent report, **Forgotten Land, Forgotten People**, that an improved communications system be developed to meet pipeline-related needs as well as to be of lasting benefit to the citizens of the region.

In accordance with the socio-economic terms and conditions, now finalized for North B.C. and pending finalization for the Yukon, the respective segment companies, Foothills Pipe Lines (North B.C.) Ltd. and Foothills Pipe Lines (South Yukon) Ltd., must submit for Agency approval plans describing how telecommunication services will be utilized and upgraded to ensure the public interest is taken into account. Gryba says this could be done by the installation of additional circuits and linking up the branch lines with the existing microwave system which runs the length of the Alaska Highway.

The pipeline companies' technical proposals also have to go before the federal Department of Communications (DOC) for licensing approval, a process

which requires ample lead time. Brian Trevor, the Agency's Manager of Government Programs and Surveillance Administration, acts as the liaison between the Agency and the DOC to help expedite the approval process. For instance, says Trevor, every mobile radio requires a licence to transmit, as well as approval for the frequency used. "The authorization of frequencies could take some time because these are co-ordinated on a North American basis," he explains.

Among the proposals being studied by the telephone consortium is the feasibility of designing an integrated system along the whole length of the pipeline for relaying information via computer and telephone during the operational phase. Although this is too expensive for the telephone companies to handle on their own, a cost-sharing arrangement for designing such a system may be worked out with the parent company, Foothills (Yukon).



Profile - A. Barry Yates, Deputy Administrator

25 Years of Experience in Northern Affairs

A taste for people, places and "a bit of the wild" acquired during eight years around the world with the Royal Engineers lured A. Barry Yates to the Yukon in 1950 to accept his first job upon graduation from the University of London, England in civil and mechanical engineering. The experience launched his career in northern development and nurtured his keen sensitivity to people's concerns in the Yukon and the Northwest Territories.

Yates, now 57, is the Northern Pipeline Agency's Deputy Administrator in charge of policy and programs. "I probably got here by accident, by just doing a lot of things," he comments. After ten years in the Yukon involved with maintenance and construction of roads, bridges and buildings for the Northwest Highway System, Yates joined the federal Department of Indian Affairs and Northern Development (DIAND)'s Engineering Division in Ottawa in 1960.

The '60's were a period of large-scale growth for the territories, recalls Yates. Housing, schools, roads and utility systems were introduced, while the field of social welfare and the idea of local government opened up in the territories.

During his 16 years with DIAND, Yates moved from the technical field to the overall administrative and planning side. By 1969, he had become director of DIAND's Northern Economic Development Branch and in 1973 he was appointed the first director general of the newly-established Northern Policy and Program Planning Branch.

In Contact With Issues

"Everything you can imagine going on in urban society goes on in one form or another in those two territories," Yates remarks. "I was fortunate enough to be in contact with those things. Issues such as local businesses and native employment are no different now than they were then."

As resource development in the north accelerated in the late '60's and '70's, Yates was closely involved in the development of environmental legislation, including the *Northern Inland Waters Act*, the *Arctic Waters Pollution Prevention Act* and the *Territorial Land-Use Regulations*. During this time the issue of native land claims came to the fore and inquiries were conducted such as Justice Thomas Berger's 30-month study into the impacts of constructing a

gas pipeline through the Mackenzie Valley.

Yates recalls, "I went one day with Jean Chretien (then Minister of Indian Affairs) and met with Judge Berger and discussed with him how this might be done. This was Berger's first introduction to the inquiry. It was fascinating. After that I followed it very closely."

In September, 1977, Canada and the United States signed an agreement committing both governments to the construction of a pipeline to carry Alaskan gas through Canada to the lower 48 states. The route through the Yukon and northeastern British Columbia would follow the Alaska Highway. Yates was instrumental in drawing up the pipeline legislation, the *Northern Pipeline Act*, which issued certificates to the Foothills group of companies and established the Northern Pipeline Agency as the regulatory authority for planning and construction of the Canadian portion of the Alaska Highway gas pipeline.

The Act, explains Yates, was the first piece of legislation to reflect a balanced approach towards northern development by ensuring protection of the environment and maximum benefits with minimum disruption to local people and economies.

Yates brought to the Agency in 1978



A. Barry Yates, Deputy Administrator, Policy and Programs

over 25 years of experience and insight in northern affairs and development. As Deputy Administrator, Policy and Programs, a title he admits is quite a mouthful, Yates deals with a wide range of socio-economic, environmental, intergovernmental and interdepartmental interests. To keep the communication flowing is the most challenging and rewarding aspect of his work, Yates says.

Others' Interests Reassured

"Other people, other governments - provincial and territorial - have an interest and you just can't brush them off and say 'Get out of our way, we're doing this.' You've got to reassure them that their interests are going to be taken into account. The same thing holds true with federal departments."

Yates finds the Agency less bureaucratic than government bodies tend to be, because of the nature of the *Northern Pipeline Act*. "We were designed for a specific purpose, to do a specific job; we don't have to do anything else. As long as we do the job well I guess people aren't going to criticize us," he concludes with a grin.

News In Brief

The National Energy Board on April 1 granted Foothills Pipe Lines (Alta.) Ltd. leave to open the three newly-constructed sections of the Alberta portion of the Alaska Highway gas pipeline's Western Leg at a maximum operating pressure of 8,690 kilopascals (1,260 lb. per sq. in.). Along with the southeastern British Columbia segment of the line, the facilities will provide for the initial, short term export of surplus Alberta gas in volumes of up to 6.7 million cubic metres (240 million cu. ft.) per day starting early this summer.

Construction of the Western Leg which began in August, 1980, involved the installation of 215 km (132 mi.) of additional pipeline sections to the existing systems of NOVA and Alberta Natural Gas Company Ltd in Alberta and South B.C. respectively. The work was completed in January except for tie-ins to the existing line and final clean-up and revegetation activities which will take place this spring and summer. Leave to open the B.C. section has not yet been announced by the National Energy Board.

The total Western Leg runs 388.5 km (241 mi.) from James River Junction, 88 km (54.7 mi.) northwest of Calgary, southwest through the Gold Creek Valley and along the Forestry Reserve boundary to Phillips Pass, near Crowsnest Pass at the Alberta-B.C. border. From there the line extends south to the international boundary near Kingsgate, B.C.

All orders authorizing Foothills Pipe

Lines (Sask.) Ltd. and Foothills Pipe Lines (Alta.) Ltd. to take additional lands along the Eastern Leg in Saskatchewan and Alberta have been issued. On behalf of the National Energy Board, the Agency's Designated Officer, William A. Scotland, issued the final 19 orders April 1 to Foothills (Sask.) for additional right-of-way lands along the 258 km (160 mi.) Saskatchewan segment. The company's applications were made at a public hearing which began in Shaunavon, Saskatchewan February 17 and reconvened in Regina March 23.

A total of 53 orders was released by the Agency during the period from February 27 to March 20 based on previous public hearings in Brooks and Olds, Alberta on February 5 and January 29 respectively. Foothills Pipe Lines (Alta.) Ltd. sought additional lands along a total distance of approximately 171 km (102 mi.) of the Alberta segment.

Construction begins in May on the 635 km (394 mi.) Eastern Leg which runs southeast from James River Junction to a point near Empress, Alberta and continues southeasterly to the international boundary near Monchy, Saskatchewan.

The federal panel studying the environmental implications of construction of the Alaska Highway gas pipeline through the Yukon has opened for public review Foothills Pipe Lines (South Yukon) Ltd.'s February submission on pipeline route alternatives in the Whitehorse/Ibex Pass region.

Over the next five months Foothills (South Yukon) will submit documents to the Northern Pipeline Agency in response to the information deficiencies outlined in the September, 1979 report issued by the Environmental Assessment Review Panel (EARP). The report was based on the company's environmental impact statement and subsequent public hearings held in Whitehorse in the spring of 1979. The panel requested additional information on route alternatives, locations of pipeline facilities, water crossings, frost heave and thaw settlement and construction scheduling in relation to the impact on fish and wildlife. The Agency will review the documents and then forward them to the panel for review by technical experts and the public.

The EARP process was set up by the federal government in 1973 to seek public comment on major federal projects or projects on federal lands such as an airport, a main highway or a pipeline, so that environmental effects could be taken into account early in the planning stages.

The Operations and Safety Manuals for the completed Western Leg in Alberta and southeastern British Columbia received Agency approval on March 10. The manuals which apply to the Foothills Pipe Lines (Alta.) Ltd. and Foothills Pipe Lines (South B.C.) Ltd. segment companies during the operational phase of the pipeline, include procedures for fire prevention and control, detection of leakages and pipe repairs.

Sharp Stresses Private Financing Intent continued...

Alaska Highway gas pipeline is both economically sound and in keeping with the national interest of both the United States and Canada in reducing dependence on insecure foreign energy supplies.

The seminar on Canada-United States energy issues, at which Sharp spoke and co-chaired, was organized by the Washington Council of International Trade, the University of Washington's Graduate School of Public Affairs and the Battelle Seminars and Studies Program in Seattle, in co-operation with the Canadian Consulate General of Seattle. It was attended by government officials, oil and gas industry executives and academics mainly from Western Canada and the United States.

Pipeline

The Northern Pipeline Agency was created by Parliament in April, 1978 to oversee the planning and construction of the Alaska Highway gas pipeline project in Canada. Enquiries or suggestions are welcome and may be directed to:

Northern Pipeline Agency
4th Floor
400 - 4th Avenue S.W.
Calgary, Alberta
T2P 0J4

Editor: Donna Lawrence
Researcher/Writer: Deena Soicher