

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 86/2

659 SCOMM21: ROYALTY OIL & GAS FILES 1977-78

The pipeline would continue carrying gas in all kinds of weather, and has the added advantage, should a mishap halt service temporarily, of having gas flow restored quickly.

In summary, Northwest's Alcan Project avoids the Arctic National Wildlife Range, disrupts no other wilderness areas, avoids earthquake zones, is more reliable than an LNG system, and would deliver the natural gas where it's needed and when it's needed.



Alcan follows Alyeska oil line for 539 miles from Prudhoe Bay to Delta Junction south of Fairbanks.



Alcan Pipeline will follow the Alcan Highway from Delta Junction to the Yukon/British Columbia border.

Canadian Issue

Supporters of El Paso have occasionally made exaggerated and sometimes outrageous claims about Canadian interests, institutions and intentions. They would have everyone believe that Alaskan gas will not be secure once it is in transmission systems owned by Canadian companies, that Canada will unfairly tax or otherwise impede the flow of Prudhoe Bay gas to the lower 48.

However, the U.S. and Canada recently initiated a treaty which protects the flow of Alaskan gas in transit through Canada and provides that any provincial taxes and duties must be nondiscriminatory. The movement and the rate of return allowed for transporting the gas will be regulated by Canada's National Energy Board (equivalent to our FPC), not by the provinces. The NEB has exclusive jurisdiction over the pipeline of our Canadian partners.

Both Alberta and British Columbia have ad valorem taxes, as do the individual states in America, and British Columbia has a fuel tax. Like taxes in the U.S., these taxes would be applicable to the Alcan Project, but only as they are applicable to Canadian gas facilities. In both Alberta and British Columbia, Alaskan gas will be co-mingled with Canadian gas and, as a practical matter, the provinces cannot tax Alaskan gas without taxing the transportation of Canadian gas.

The proposed gas flow is merely a part of the huge economic trade that passes daily between the U.S. and Canada. For example, the oil flow from western to eastern Canada, some 510,000 barrels of crude per day, goes through pipelines in the United States. At Portland, Maine, Canada imports 437,000 barrels of crude oil per day, which are transported to Montreal through the United States. All of these 947,000 barrels of oil are under the control of our federal government. Canada also transports approximately 40 percent of its natural gas supplies, or 815 million cubic feet daily, through transmission lines across U.S. corridors. All of this gas is under U.S. government control.

We at Northwest Pipeline believe it's totally unrealistic to talk of Canada discriminating against U.S. gas flowing through its provinces.

Gas For Alaska

The Alcan Pipeline Project would provide a sound and stable energy base for an expanding Alaskan economy. It is the only plan which provides a high degree of flexibility and is not locked into huge front-end investments.

Since Alcan's capital costs are lower, Alcan management can respond more quickly and positively to Alaska's future industrial requirements. Alcan provides many options for the development and delivery of Alaskan gas. One option is a spur line down the industrial corridor through Anchorage into the Cook Inlet area. Or if gas were discovered along the southern coastal area along the Gulf of Alaska, a spur could be run back to the Alcan line for redelivery of the gas to markets elsewhere in Alaska or to the lower 48 states. The Alcan system also has the flexibility to accommodate new gas discoveries in central Alaska.

As noted, the Alcan Pipeline will follow the old Haines pipeline as far as Haines Junction. If Alaska so desires, the existing spur from Haines Junction to the Haines/Skagway area could be put into service. The Haines line has the potential for transporting about 50 million cubic feet of gas per day. If Alaska decides to develop small industries in this area, Alcan will be able to supply the energy required.

These are only a few examples. There are dozens of other possibilities that could contribute to the long-term growth and stability of Alaska, including development of the petrochemical industry in Alaska and development of Alaska's vast mineral resources. The steps Alaska should take to develop new industry are for Alaska to decide. However industrial, mineral and agricultural development will surely follow gas availability, and in the long-term, this will provide the jobs and the economic base for orderly and continuing growth in Alaska.

Conclusion

If American Energy Independence is to become a reality, we must carefully consider the selection of a route and system for bringing North Slope gas to markets in the lower 48 states.

Northwest's Alcan Pipeline Project is the responsible, practical choice. The Alcan plan is in the best interests of the United States because it will bring the Prudhoe Bay gas reserves on stream two years earlier than the proposals of the Arctic Gas or El Paso, and our project will cost billions of dollars less than either of the two alternatives.

We also recognize the need to protect the state of Alaska from haphazard development, and we have designed our Alcan Pipeline in such a way that it will reliably supply the U.S. with vitally needed gas and not invade lands that are not already developed.

In Canada, we will follow the Alcan Highway through the Yukon and British Columbia and, therefore, will not invade Canada's wilderness areas. Because the Alcan Pipeline will not require additional volumes of Canadian gas to operate economically, our plan also will permit the orderly development of the frontier gas reserves at a time of Canada's choosing.

Northwest's Alcan Pipeline Project is superior in several ways: It saves time, money and the environment, and provides for the earliest delivery of Alaskan gas to U.S. markets.

We're convinced Alcan is the best plan — for Alaska, for the nation and for future generations throughout America.





**NORTHWEST PIPELINE
CORPORATION**

A wholly-owned subsidiary of
Northwest Energy Company.

General Offices:

P.O. Box 1526, Salt Lake City, Utah 84110.

Telephone 801/534-3600.

TESTIMONY-ALCAN PIPELINE COMPANY

PRESENTED BY MORRIS THOMPSON, VICE PRESIDENT

Yesterday, Federal Power Commission Administrative Law Judge Nahum Litt handed down his decision. We have seen an eleven page FPC news release on this decision. Several issues were raised concerning the Alcan pipeline route. Judge Litt asserted that Alcan's design is neither efficient nor economic since its proposed pipeline is undersized; that Alcan's three-year phased-in construction schedule is not credible; and that Alcan's proposed summer construction cannot be accomplished without unacceptable environmental impact.

The Administrative Law Judge's decision is but one step in the certification of the route to deliver Prudhoe Bay natural gas. Northwest Pipeline Corporation and its wholly-owned subsidiary, Alcan Pipeline Company, believing their proposed route to be a viable alternative, entered the FPC proceeding in July of 1976. We feel Judge Litt did not thoroughly review all of our evidence and new material. We feel that we have adequately addressed the issue of the size of our proposed line in filings before the NEB where we agree to look at varying pipeline sizes and pressures. We would only point out that currently there are no gas pipelines in the United States or Canada which operate at a pressure in excess of 1,000 psi. We propose a line which operates at 1250 psi, feeling that this is the next logical and practical advance in pipeline construction. El Paso proposes a line which operates at 1440 psi and Arctic one which operates at 1680 psi.

We believe our construction schedule is reasonable; however, in light of the Judges findings this will be reviewed. As to the proposed summer construction schedule, we feel with the experience of Alyeska Pipeline Service Company and the State and Federal surveillance there will be no environmental degradation.

We would like to raise and discuss the issues we feel the legislature should consider on the proposed royalty gas sales. Using the minimum/maximum values set forth in the Jensen Associates

Report prepared for the legislature, the value of this resource ranges from 660 million dollars to in excess of 6.6 billion dollars. The contracts presently before the Legislature sell Alaska's Royalty Gas to three companies in exchange for an unspecified amount of political support for the El Paso Pipeline System.

The realities of the situation are as follows: The Commission Staff of the FPC has recommended the Arctic Gas Pipeline route -- an all land route. The FPC Administrative Law Judge just yesterday recommended the Arctic Gas route. The people of the State of California and the Public Utilities Commission of the State of California in their brief filed with the Federal Power Commission have come out in favor of the Arctic Gas Proposal -- an all-land route. The Sierra Club, the Wilderness Society, the National Audobon Society, and the Alaska Conservation Society in their brief filed with the Federal Power Commission have come out in favor of the Alcan route. It is absolutely clear that the final decision is going to be an all-land pipeline. A significant problem facing the Arctic proposal is the Native Claims issue. The resolution of the Native Claims problems in the Alcan project is less difficult.

Turning to the contracts, they commit the State's royalty gas to three buyers. As a general rule in the gas industry, an owner of natural gas will not make a commitment to sell its gas until the price is known; the point of delivery, costs of delivery and conditions of delivery are known; and in any event, when you are a minority owner, as is the State in this instance, at the latest possible date in order to maximize your contract income by being able to capitalize on the terms given others, and minimize your losses due to changes in the political and regulatory environs. The State has committed its gas without knowing the price, associated cost or point of delivery, nor what the other sellers will achieve. The price is critical. If the price is too low, the producers will not sell their gas, but will re-inject it to gain additional oil recovery. In view of the above we feel it would not be prudent for the State of Alaska to sell its gas at this time.

Approval of the contracts will substantially reduce royalty revenues to the State because the transportation system the State has selected to support costs more to build; the markets of Tenneco and Southern Natural Gas are more remote than that of Northwest Pipeline Corporation which increases transportation costs; and there is a substantial possibility of deregulation which will create substantially different marketing opportunities than we face today. If the average cost of transportation to the "lower 48" markets is 24¢ less expensive with Alcan than with El Paso, as found by Judge Litt, then 24¢ more per mcf could be received at the wellhead or almost \$800 million for the State's royalty share. Therefore, the net economic benefit for the Alcan project to the people of the State of Alaska must be greater than that of the El Paso project.

Article 12 of the "General Terms and Conditions" of the Contracts attempts to provide that any more favorable terms negotiated in the producer sale contracts will be included in the State's contract, but, it is narrowly limited to sections 3, 5, and 6 of the "General Terms and Conditions" which in and of themselves are narrow and limited to matters relating to measurement practices and billing procedures. This provision should be extended to the entire contract insofar as practical.

An additional problem with the contracts is the fact there is no set plan or performance criteria from which to measure the support provided by the purchasers for the El Paso project. The addition to the contracts of a defined plan, a budget and performance criteria will insure compliance with the State's major objective for the sale. Further, to insure all out support, the contracts should be automatically terminated if El Paso is not certificated or if the State switches its support to another route.

It can be expected that the FPC will attempt to charge Alaska for any "carrying charges" associated with excess capacity in the Prudhoe gas transportation system which is occasioned by the withdrawal of the royalty gas. The FPC is simply not going to let the "lower 48" consumer pay for capacity required to serve the varying

needs of the State. The State is not protected from bearing these charges under the proposed contracts. The contract should be amended so the State has this protection.

The proposed contracts are not necessarily deficient in what they provide, but rather in what they fail to provide.

The contract does "mortgage future discoveries that can be transported through the "pipeline" by giving the Buyers a right of first refusal to buy future discoveries up to one and a half times the amount of Prudhoe royalty gas that the State has taken under the reservation features of the contract. Northwest's preliminary offer included no such "mortgaging" provision.

Under paragraph 3.7(a) of the Contract, Alaska grants the Buyers the right to buy additional surplus gas"... at the highest price available to Seller for such gas from any other interstate bona fide purchaser". With the Buyers having a right of first refusal, it will be extremely difficult to get serious bids from other buyers because they recognize that they will simply be setting a price which the Buyers will match. Other, more beneficial terms which may be forthcoming from other purchasers, such as advance payments, are not even considered in this right of first refusal.

At the time the State takes a portion of its reserved gas, it is obligated to purchase from the Buyers a proportionate percentage of the field facilities, that is, the gathering, compression, treating and dehydration facilities which the Buyers have paid for to handle the State's gas. We believe it would have been far better for the State, as an option, for the Buyers to retain ownership of these facilities and only charge the State a cost-of-service for their use. The State would thus avoid a capital expenditure in utilizing its gas.

The limitation on processing in paragraph 9.1 of the Contract to a residue gas quality of 1000 BTU per cubic foot may effectively limit the State's ability to extract a significant portion of the liquids, particularly if any volume of inerts such as CO₂ and/or

nitrogen remain in the stream. In the "Lower 48", it is common to accept gas having a heating value of 950 BTU per cubic foot.

In an effort to gain "political support" for a pipeline system the State has failed in its charge to fully survey the market opportunities. The following issues should be considered:

- 1) What are the possibilities of direct sales to high priority, industrial "end users"?
- 2) Can the State obtain advance payments from markets unregulated by the FPC? Depending upon the regulations of a particular state, a pipeline or distributor may have an opportunity to include advance payments in its rate base, and it is not at all probable that the FPC will preclude transportation of such gas because of the advance payment feature. Certain payments of this type are currently being offered by interstate pipelines and their unregulated customers.
- 3) What are the possibilities that gas will be deregulated in the near future? It is fine to say that your contract protects you in the regulated environment, but we are on the threshold of deregulation, and the possibilities are many and varied.
- 4) What has been done to insure that the gas will be delivered by the pipeline system on a basis consistent with the widely ranging daily needs of small distribution systems and limited industrial markets?
- 5) What provisions could have been negotiated with the Buyers and/or transporters to provide gas liquids extraction, storage and distribution networks?

Representative Gruening in his opening remarks set forth two critical issues: what will the state give up and what will it gain in return. We feel the State will give up its opportunity to gain maximum benefits from the future sale of its royalty gas and will gain an unspecified amount of political clout.

We thank you for the opportunity to testify on this very important issue.

ALCAN PIPELINE COMPANY

MORRIS THOMPSON
VICE PRESIDENT

310 K STREET, SUITE 504
ANCHORAGE, ALASKA 99501
TELEPHONE 907-237-9547

December 29, 1976

The Honorable John L. Rader
Alaska State Senate
Box 2068
Anchorage, Alaska 99501

Dear Senator Rader:

Perhaps one of the most critical issues to be faced by the Alaska Legislature during the upcoming session deals with the State's sale of its royalty gas and the ultimate certification of a route to transport Prudhoe Bay gas from Alaska to markets in the lower 48. As you are aware, the Federal Power Commission has recently completed hearings on the three competing proposals, and a decision is expected from FPC Judge Litt around the middle of January.

To assist you in your preparation for this complex decision, I am forwarding several reports pertaining to the construction of the gas pipeline. The enclosed reports are: (1) the Federal Power Commission staff recommendation; (2) a brief filed by the Sierra Club, the Wilderness Society, the National Audubon Society, and the Alaska Conservation Society; and (3) a brief filed by the California Public Utilities Commission.

As you know, Northwest Energy Company has recently opened an office in Anchorage to be in a position to explain our project, answer any questions, and represent our company in Alaska. We stand ready to work with you and the people of Alaska to the ultimate conclusion of this complex issue.

Sincerely,



Morris Thompson

MT/odw
Enclosure



Foster natural Report gas

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... for week ended
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1101 15th Street, N.W.
Washington, D.C. 20036
(202) 296-2480

(which declined to restrict the use of intrastate gas from other sources as boiler fuel) is "reasonable, appropriate on these facts, and consistent with past practice."

One further transaction considered by FPC Judge Southworth in his initial decision involved an application by Ammonia Enterprises Pipeline, Inc. (CP75-268) -- a newly formed and wholly-owned subsidiary of Continental Oil Co. -- to construct and/or acquire approximately 61 miles of line, at an estimated cost of \$18 million, in order to transport gas owned by Continental from West Cameron Block 66 to Continental's West Gillis, Louisiana gas processing plant and, after processing, to deliver residue gas to an ammonia plant of Olin Mathieson Chemical Corp. in Lake Charles, Louisiana. Ammonia Enterprises proposed to transport approximately 25,000 Mcf/d, representing 100% of Continental's interest in the West Cameron Block 66 reserves, and to charge Continental 26¢/Mcf for transportation service, including a proposed return of 11.25%. The Law Judge recommended dismissal of the application because of the lack of any provision for sale of a portion of the gas in the interstate market. Ammonia Enterprises subsequently requested withdrawal of its application.

Alcan Files 48-Inch Alternative Alaskan Gas Transportation Proposal; FPC Accepts Alternative Filing for Consideration and Provides for Submission of Supplemental Information on All Pending Projects by March 12

On 3/8/77 Alcan Pipeline Co. filed an alternative 48-inch Alaskan gas transportation proposal for FPC consideration under the Alaska Natural Gas Transportation Act of 1976 (RM77-6). The 48-inch proposal -- which involves an express line from the North Slope to the Lower 48 States with no commingling of Alaskan and Canadian gas -- is an alternative to Alcan's original 42-inch project in the El Paso Alaska (CP75-96 et al.), which entailed transportation of Alaskan gas in Canada partly through new facilities and partly through existing systems of Westcoast Transmission Co. Ltd. and Alberta Gas Trunk Line Co. Ltd. Pursuant to procedures prescribed in the Alaska Transportation Act, the Commission suspended the El Paso Alaska proceeding upon issuance of Judge Nahum Litt's initial decision on 2/1/77. 1/

Concurrently, Alcan filed a motion requesting the Commission to receive and consider the 48-inch alternative proposal prior to preparation of its report and recommendation to the President on selection of an Alaskan gas transportation

1/ The Alaska Gas Transportation Act of 1976, among other things, directed the FPC to "suspend" all proceedings relating to the transportation of Alaskan gas pending on the date of enactment "as soon as the Commission determines to be practicable after such date," to review all applications to transport Alaskan gas pending on the enactment date, and to submit a report to the President by 5/1/77 on the selection of a natural gas transportation route from Alaska's North Slope to the Lower 48 States. Such report shall recommend either a particular transportation system or no decision at this time. Any recommendation for an all-land pipeline transportation system, or a transportation system involving water transportation, must "include provision for new facilities to the extent necessary to assure direct pipeline delivery of Alaskan natural gas contemporaneously to points both east and west of the Rocky Mountains in the lower continental United States."

In addition, the FPC was authorized to provide, by rule, for the "presentation of data, views, and arguments" pursuant to such procedures as the Commission determines to be appropriate, with such rule to apply "notwithstanding any provision of law that would otherwise have applied to the presentation of data, views, and arguments." (See REPORT NO. 1076, pp9-11.)

system, due 5/1/77. Alcan contended that the Alaska Natural Gas Transportation Act directed the Commission to consider not only applications under review at the time of enactment, but also any amendments and reasonable alternatives thereto. Alcan also referred to a Senate Committee report on the Alaskan gas bill which stated the Committee's intent that the Commission "undertake detailed consideration of the El Paso, Arctic Gas, Northwest Pipeline and Methanol proposals, together with any reasonable variations and combinations, without reference to sponsors or lack thereof." A similar intent, Alcan said, was expressed in a House Committee report which made clear that the Commission was to have full procedural flexibility to consider all reasonable alternatives prior to submitting a recommendation to the President. Therefore, Alcan declared, the Alaska Gas Transportation Act clearly abolished any procedural obstacles which might otherwise have prevented consideration of the 48-inch alternative -- which is clearly a "reasonable alternative" to previous proposals.

A few days earlier, on 3/2/77, Alcan also petitioned the FPC to schedule five days of oral proceedings (at the end of March) to allow the three applicants proposing competing Alaskan gas transportation projects and other major parties an opportunity to present data, views and arguments. Alcan stated that many new facts and developments have surfaced since the close of the record in the El Paso Alaska case -- including a redesign of certain features of the Arctic Gas project recently outlined in a filing to the NEB, and Alcan's proposed 48-inch express alternative -- and that this new information should be considered by the Commission. Alcan suggested that each applicant be allowed one full day to explain its proposal (including the significance of any new developments), that other major parties be allowed a day to present their views, and that a fifth day be devoted to rebuttal.

In response to the above filings, the FPC on 3/11/77 issued Order No. 558-C (RM77-6) amending prior procedural orders -- which provided for the appointment of delegates to receive data and communications from other federal agencies and from persons, and groups in the private sector, except the three applicants in the El Paso Alaska case -- to enable the Commission and its delegates to receive and consider supplemental information from the applicants. The FPC specifically accepted Alcan's alternative proposal filed on 3/8/77 for consideration, and invited the applicants and other parties in the El Paso Alaska case to submit in writing any supplemental information relating to their respective proposals by 3/22/77. Statements in response to this supplemental information may be filed by 3/30/77. ^{1/} The Commission emphasized that it is concerned only with new information or data which were developed or became available after the close of the hearing record in the El Paso Alaska case on 11/12/76. Information or arguments repetitious to those contained in the record or briefs already filed with the Commission will not be considered.

The Commission further stated that, because of the shortness of time, it will be necessary to use some technical staff members who participated in the El Paso Alaska proceeding to perform technical and environmental analyses of the supplemental information. Any reports prepared by such Staff members will be placed in the public files at the time of presentation to the Commission. Also, in evaluating these reports, the Commission "will be cognizant of any positions previously taken by such persons."

^{1/} Arctic Gas subsequently advised that it would respond to Alcan's new filing to the extent possible by 3/30/77. However, Arctic Gas asserted, written responses will afford insufficient opportunity for clarification. Arctic Gas therefore suggested that an on-the-record conference, with Judge Litt presiding, be set for 3/24/77 to explore Alcan's 48-inch alternative.

Alcan's original 42-inch proposal in the El Paso Alaska case was sharply criticized by Judge Litt in his initial decision of 2/1/77. The Law Judge concluded that Arctic Gas was superior in nearly every respect to the El Paso Alaska proposal, that El Paso Alaska nevertheless had a "viable plan" which could be approved if Arctic Gas were unable to accept a certificate, but that the Alcan project did not have even a "possibility" of authorization. Judge Litt particularly criticized the inclusion of Westcoast Transmission Ltd. in the Alcan project because of the arbitrary assignment of volumes for transportation through the Westcoast system and higher costs of transportation which would result for U.S. consumers. Specifically, he said, the proposed 30%-70% split of volumes in Canada -- i.e., delivery of approximately 30% of the Prudhoe Bay gas to Westcoast at Fort Nelson, British Columbia for redelivery by Westcoast through expanded facilities to Sumas, and delivery of the remaining 70% to existing facilities of Alberta Gas Trunk Line at Zama Lake, Alberta for ultimate delivery largely to Northern Border at Monchy, Saskatchewan and possibly in part to Kingsgate, British Columbia -- was apparently adopted, in the first instance, to secure Westcoast's participation in the Alcan project by assuring that the Westcoast line below Fort Nelson, British Columbia "would be allocated a sufficient volume of gas to fill existing excess capacity, thereby warranting construction of additional loop facilities which would inure to the ultimate benefit of Canadian customers." Also, he noted the cost of deliveries by Westcoast to Sumas would exceed the cost of deliveries to Kingsgate. The Law Judge further declared that the tariffs of both Westcoast and AGTL disclosed an "overt Canadian bias" and contained cost allocation provisions "totally unacceptable" to U.S. consumers.

In addition, Judge Litt concluded that two critical elements of Alcan's proposal -- construction in a three-year period (with completion in 1981) and financing in a separate time frame from the Maple Leaf project (sponsored by the same Canadian companies which are participants in Alcan) -- were totally unsupported. Completion of the Alcan project by 1981 simply "cannot occur," he stated, and the financing arrangements proposed for Alcan and Maple Leaf require "intricate timing" which lacks any evidentiary support. Accordingly, "as presently proposed, even with Alcan's willingness to build anything anyone wants (as long as it does not oust Westcoast and AGTL from their Maple Leaf project), there is not enough left of its original proposal to serve as a basis for granting its application." (See REPORT NO. 1090, pp9-11 and App. ppl-23.)

Extensive exceptions were filed by Alcan and other parties to Judge Litt's initial decision on 3/1/77. Among other things, Alcan requested that the initial decision be disregarded by the Commission because of its "pervasive bias" against Alcan. (See REPORT NO. 1095, App. ppl-26.)

Alcan 48-Inch Alternative Proposal

Alcan expressed the view that its original 42-inch project (with an average day design capacity of 2.4 Bcf/d) was optimally sized to transport initial and ultimate volumes expected to be available in northern Alaska (2.0 Bcf/d), and afforded ample expansibility (to 2.9 Bcf/d) with the addition of compression facilities. However, Alcan decided to submit a 48-inch express line alternative in view of suggestions by various parties -- including the NEB, the FPC Staff and others -- that such design might be preferable. While entailing increased capital costs, Alcan said, a 48-inch express line provides "identifiable advantages" in terms of fuel savings, expansibility and lower transportation cost of service. Equally important, these advantages are achieved without loss of the substantial benefits inherent in a Fairbanks Corridor route.

Unlike Alcan's 42-inch project, the 48-inch alternative would involve no commingling of Canadian gas, although segments in Canada would be owned and operated by Foothills Pipe Lines (in the Yukon and Saskatchewan), Westcoast (in British Columbia) and AGTL (in Alberta). The route of the proposed alternative would be the same as the original project in Alaska and the Yukon, but would deviate in British Columbia and Alberta. Specifically, the alternative route would extend 833 miles from Watson Lake on the Yukon-British Columbia border to James River, Alberta -- somewhat south of the 42-inch route via Fort Nelson, British Columbia and Zama Lake, Alberta -- where the line would divide, with one leg to extend to Kingsgate, British Columbia and the other to Monchy, Saskatchewan via Empress, Alberta. With the volumes destined for each Lower 48 market region presently unknown, Alcan assumed delivery of 659 MMcf/d to Kingsgate as shown in Pacific Gas Transmission's pending application and the remaining 1,569 MMcf/d to Monchy, resulting in a 29%-71% split.

Alcan assumes commencement of deliveries at a level of 1.6 Bcf/d on 10/1/81, building up over a 15-month period to 2.4 Bcf/d by 1/1/83 and thereafter. With the addition of compression, Alcan said, the alternative system could be expanded to 3.2 Bcf/d on an average day basis (or 3.4 Bcf/d on a peak day basis).

Alcan estimated the total capital cost of the 48-inch alternative, including facilities required in the Lower 48 States, at \$6.7 billion in 1975 dollars and \$9.6 billion escalated through the year of construction. While these figures are somewhat higher than the estimated costs of the 42-inch project (\$6.3 billion and \$8.7 billion, respectively), Alcan said, the 48-inch alternative would require only 6.4% of input volumes for fuel compared to 13.2% in the case of the 42-inch proposal. Moreover, this reduced fuel consumption would more than offset higher annual costs due to greater capital costs, thereby resulting in a lower average unit cost of service. Specifically, the average cost of service of the 42-inch proposal over the 1983-1987 period is estimated at \$1.61/Mcf in 1975 dollars (\$2.20 in escalated dollars), whereas the estimated average cost of service of the 48-inch alternative over the same period is \$1.43/Mcf (or \$2.05 in escalated dollars).

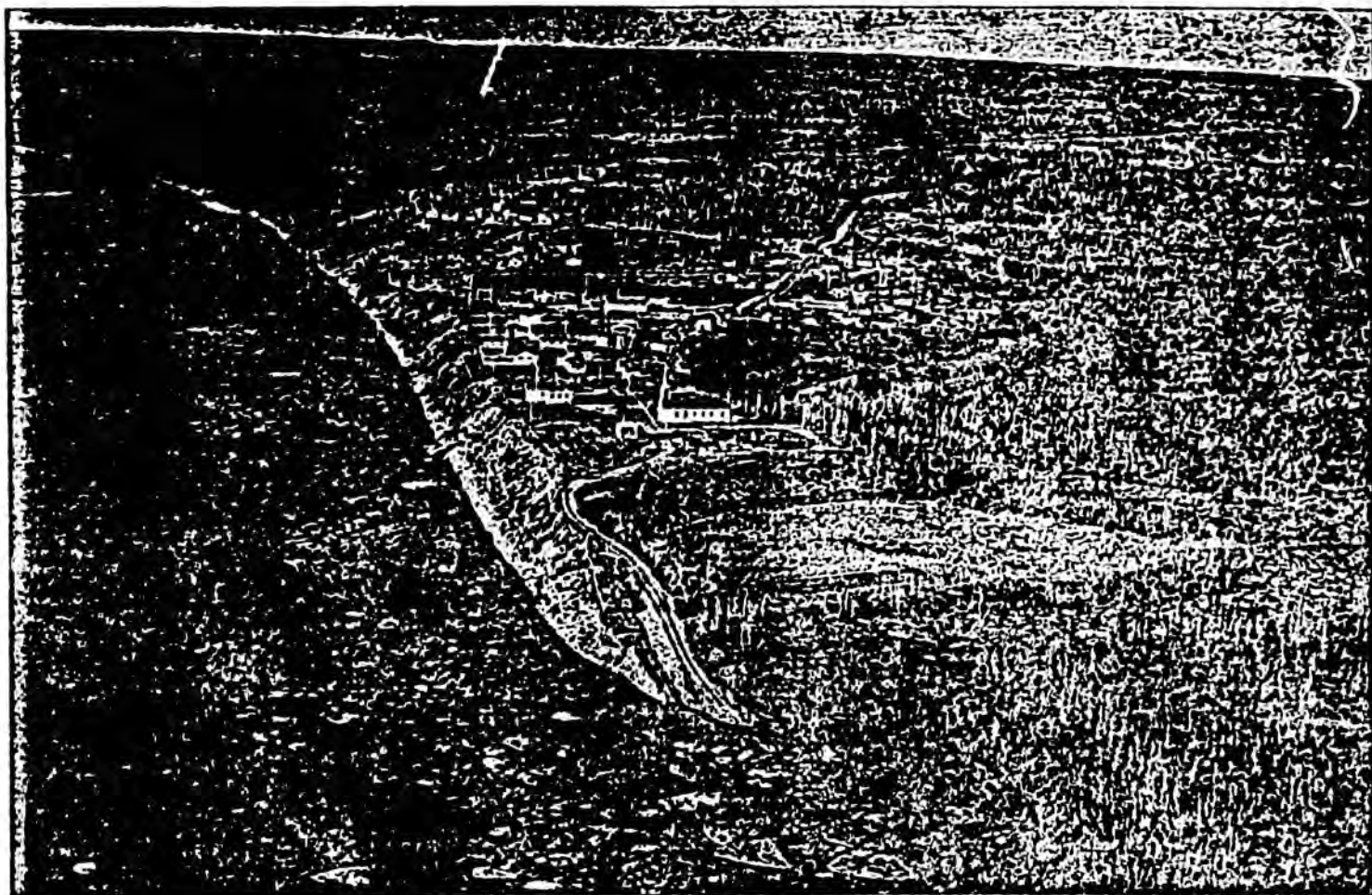
Further, Alcan declared, the 48-inch alternative can deliver gas to Lower 48 markets at a lower unit transportation cost than either Arctic Gas or El Paso. For example, in 1984-1987 (the first four years of full operation for all three projects), the escalated transportation cost for the 48-inch alternative will be 19¢/MMBtu less than Arctic Gas and \$1.02/MMBtu less than El Paso.

Beyond the unit cost and fuel consumption advantages over the Arctic Gas and El Paso Alaska proposals, Alcan stressed that the 48-inch alternative -- like its 42-inch project -- had several additional advantages, including (1) the ability to commence deliveries two years earlier than either of the other applicants; (2) less susceptibility to construction delays and cost overruns; (3) less operation and maintenance risk due to yearround surface access to the route on all-weather roads; and (4) environmental avoidance of unique wilderness areas such as the Arctic National Wildlife Range and Chugach National Forest.

The Mackenzie Valley Pipeline

HUGH McCULLUM

*File
Canadian
Native
Land
Claims*



Fort Good Hope on the Mackenzie River, about twenty miles south of the Arctic Circle.

The hearings droned on in the plush Explorer Hotel as they had off and on for sixteen months. The pipeline people were telling the royal commissioner what a great thing it would be for the Native people of Canada's last frontier if a huge natural-gas pipeline were built down the 2,800 miles of the Mackenzie Valley—career opportunities, a chance to get off welfare and into the wage economy, a chance to participate in the “development” of Canada's North.

Outside, in the rocky city of Yellowknife (population 9,000), situated on the north shore of Great Slave Lake in

Canada's vast Northwest Territories, the ambulances started to scream. A mile away from the gleaming white hotel and the carefully muted and very polite hearings, down in the part of town where the middle-class white bureaucrats don't live, an eighty-four-year-old Indian, his two grandchildren and a young Native girl lay dying from gunshot wounds. A young white man from southern Canada was subsequently charged with their murders.

To some it was just another outburst of insensate violence, perhaps associated with booze or the frustrations that so often mar life in the North. To connect it with the largest industrial development project to date in Canada's history was emotional nonsense, pro-

ponents of the pipeline would argue. But a couple of days later, before going to bury his slain parishioners, a French Roman Catholic priest who has spent more than twenty years of his life with the Native people of the Northwest Territories, stood before the commissioner, Mr. Justice Thomas Rodney Berger of the Supreme Court of British Columbia, and dedicated his testimony to the victims:

They were not shot by a killer; they were the victims of the so-called development that has taken place in the North for the last thirty or forty years, which created miserable and unjust conditions for the poor people of this district.

Hugh McCullum is a Canadian journalist based in Toronto.

Mr. Justice Berger has been accustomed to such unusual testimony during his tenure as the sole commissioner of the Mackenzie Valley Pipeline Inquiry, a "royal commission" set up by the Canadian government to determine the terms and conditions that should be attached to the construction of a natural-gas pipeline through Canada's enormous, thinly populated and fragile sub-Arctic. The royal commission is an institution unique to the British parliamentary system. Designed to investigate and make recommendations to Parliament and the government on specific issues, royal commissions are independent, investigative bodies with the power to recommend action, but without the power to enforce their recommendations. They have quasi-judicial powers, such as the right to hear evidence under oath and to subpoena witnesses. They can have one or more commissioners and are given sufficient funds to employ staff, travel and hold enough hearings to complete the work assigned to them under the terms set down for them by the government. The Mackenzie Valley Pipeline Inquiry has but one commissioner—Mr. Justice Berger. It cannot decide whether a pipeline should be built; nor is the government bound to accept its recommendations. But the process of the inquiry, rather than the final recommendations—important as they will be—is the key to the commission's importance. By allowing a broad spectrum of opinion to express itself, including that of industry, environmentalists and Native peoples, it has opened up the issues of Canada's northern development and Native claims in a way no other forum could have done.

The 17,000 Indians and Metis (people of mixed ancestry), 3,000 Inuit (Eskimos) and 9,000 whites who are scattered along the proposed route for the Mackenzie Valley pipeline present a social situation unique in North America, for nowhere else on the continent are Native peoples in the majority. The proposed pipeline has become a source of considerable tension between the Natives, almost all of whom oppose the project, and the whites, who are among its most ardent supporters. The whites see it as yet one more chance to open up and develop the frontier. The Natives see it as the end of their cultures. As they have

told Berger over and over: "Our land is our life, our mother; if you destroy that, you destroy us."

The project is immense by any standards. Even the pipeline companies, who sometimes compare it to "a thread across a football field" ("More like a slash across the Mona Lisa," one ecologist scoffed), boast that it is



A Dogrib Indian girl from the village of Dettah.

the largest project ever undertaken by private enterprise anywhere in the world. Of course, more than just a gas pipeline is being considered. Berger's inquiry, for example, is charged with considering possible development of a mighty transportation corridor that could include railroads, highways and power lines within the next decade or so.

Canadian Arctic Gas Pipeline Ltd., a consortium of major oil, gas and utility corporations in the U.S. and Canada (The number of participating corporations fluctuates dramatically. Originally there were about twenty-seven, but the number has dropped as low as twelve and is currently thought to be about fifteen), wishes to build a forty-eight-inch, 2,600-mile pipeline to carry natural gas across the Alaska North Slope and the Mackenzie Delta to markets in Canada and the southern United States. The original cost of the Arctic Gas Line has been estimated at \$8.3 billion; undoubtedly inflation has

increased this forecast to more than \$10 billion. The pipeline would have a capacity of 4.5 billion cubic feet of gas a day, enough to heat 45,000 homes for an entire year. The line would originate at Prudhoe Bay in Alaska, head east across the North Slope and Arctic National Wildlife Range, and cross the extreme northern Yukon to the Mackenzie River Delta on the shore of the Arctic Ocean. Here, it would pick up Canadian gas and continue south along the river, crossing finally into Alberta, where delivery lines would transport gas to markets in Canada and the U.S.

A second consortium, Foothills Pipe Lines Ltd., a largely Canadian group, wishes to build a "Maple Leaf" line to bring Mackenzie Delta gas to Canadian markets via a smaller forty-two-inch line costing, they estimate, some \$4.5 billion, but after inflation, probably closer to \$5 billion.

Both lines would be buried and carry chilled gas. Both lines would be constructed during winter months only over a three-year period. Each line is currently the object of intense scrutiny in Canada by the National Energy Board, a federal regulatory agency that will decide if there is current need for and sufficient supply of the gas and will finally recommend to the Trudeau government if, and to whom, a certificate of public convenience and necessity should be granted. Its hearings, already the subject of legal actions and contradictory testimony as to supplies and demands, are not expected to conclude before March 1977, even though Arctic Gas had hoped for a decision last year.

To understand the impact of the Mackenzie Valley natural-gas pipeline on the environment, two phases of the inquiry were set aside to examine the physical and living impacts. Arctic Gas spent almost \$40 million on environmental studies that have been severely criticized by the Canadian Arctic Resources Committee (CARC) and the Northern Assessment Group, the two major environmental interveners in the inquiry. Among the unanswered questions was the effect of the pipeline on animal migration patterns, how noise would affect bird migration and how the more than 300 river crossings would affect the fish and other marine life. Gravel scooped from streams for construction purposes is expected to have a serious effect on

spawning grounds. The effects of possible blowouts and ruptures on the permafrost and tundra are still unknown.

Arctic Gas experts have been forced repeatedly to admit they lack complete environmental data and that there will indeed be some environmental impact. But they assure everyone that the impact "would be minimized" and that they will know more about the potential problems by the time the pipeline is started.

CARC remains highly skeptical:

Those concerned for the environment and for the people of the North will receive cold comfort from the realization that the Canadian Arctic Pipeline Ltd. consultants did the best they could to develop appropriate methods within the constraints of economics and in the face of an unprecedented task. Nor can they receive solace from the assurance that the bugs will be solved by the time of the final design.

The environmental impact of the project is enormous. A summary of the potential impacts is frightening. An outline of the impacts prepared by the

autonomous Environmental Protection Board indicates the following potential damage, unless stringent conditions are placed on the applicants by the findings of the Berger inquiry—conditions which, of course, would have to be imposed ultimately by the federal cabinet:

- North of the sixtieth parallel, the project will scar the land with its right-of-way 120 feet wide and 1,350 miles long. It will bring to previously undisturbed areas the noise and activity of 6,000 workers and 3,000 pieces of major equipment. Roads and access bases will make the land more accessible, and less and less land will remain in its natural state.

- Enormous impact can be expected on bird populations through aircraft, construction activities, human presence, pollution, habitation destruction and hunting. Swans, geese and ducks face the most serious disruption and, of course, the effect of possible gas leaks is still unknown.

- Caribou, marine mammal and sheep populations could be seriously depleted by excessive noise, hunting and harassment by construction crews,

as well as by possible changes in migratory patterns.

- Fish numbers could be reduced through excess fishing, introduction of toxic materials into the water, destruction of spawning beds, and generally easier access to lakes and streams.

The board, whose report is deliberately low key, also lists a score of other dangers ranging from removal of archaeological sites to rather minimal effects of the project on air and water. According to the board, the effects could be minimized if time and money were spent by the applicants to build the pipeline with environmental safeguards and if the Canadian government were prepared to strengthen its regulation and enforcement mechanisms. The board expressed little hope that either of these eventualities might occur.

The main thrust of its report is the almost total lack of adequate environmental technology to protect the fragile ecology of the North and the lack of experience or precedent in building such a project through Arctic and sub-Arctic terrain.

The El Paso Gas Company of Houston, Texas, presented yet another plan to the United States Federal Power Commission in 1974, whereby Prudhoe Bay gas would be piped south to Valdez along the same route as the Alaskan oil pipeline. There it would be liquefied and loaded into specially built tankers, and shipped to ports on the West Coast. El Paso claimed that the proposed line would deviate no more than a mile from the oil line and that the same environmental factors would apply. Arctic Gas disputed this, claiming that many mountain passes enroute were too narrow to accommodate more than one pipeline. The company said that El Paso Gas would have to reroute more than a hundred miles, thereby requiring additional studies and delays, which would in turn increase the cost of the project. Environmentalists tended to prefer the El Paso route because it would avoid the Arctic National Wildlife Range and utilize an existing corridor, but at the same time they foresaw problems with the construction of additional facilities at Gravina Point near Valdez and new ones in California, where the gas would be shipped.

Then, in May 1976, at the eleventh hour and as debate continued over the first two routes, another consortium

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YOUNG WALRUS
(*Odobenus rosmarus*)

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Dogrib Indians ice fishing on Great Slave Lake, source of the Mackenzie River.



A woman of the Hare tribe tans a moose hide near Fort Good Hope.

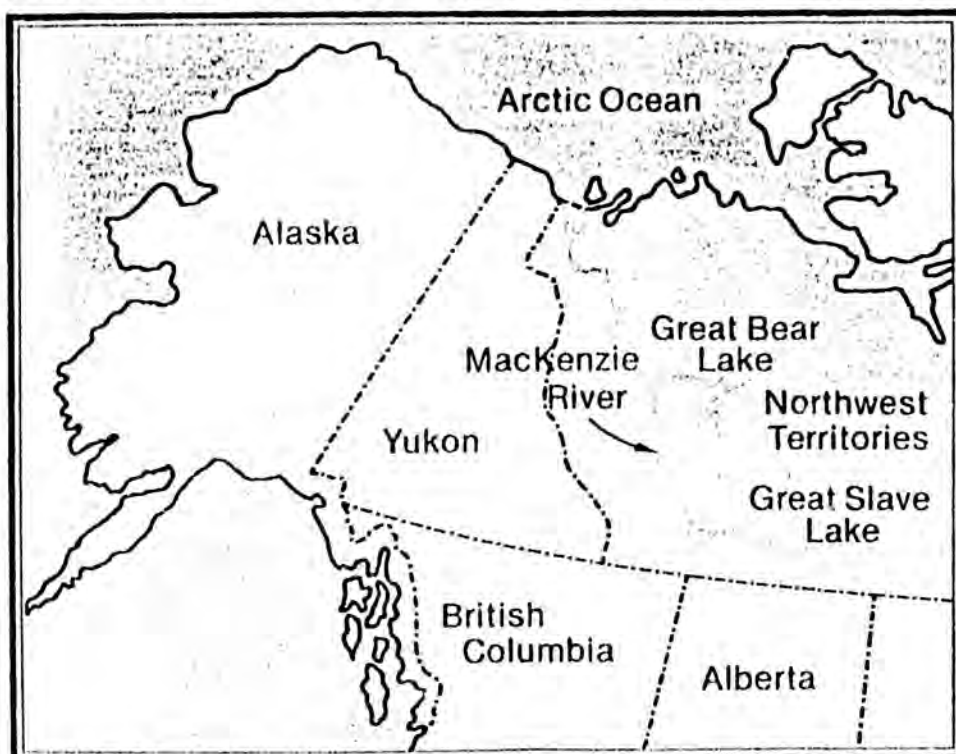
formally applied to Canada's National Energy Board and the U.S. Federal Power Commission for a third route, one that environmentalists had been advocating for some time. A U.S. company—Northwest Pipeline—and three Canadian companies—West-coast Transmission, Alberta Gas Trunk, and Foothills Pipelines—proposed to build a gas pipeline utilizing the existing oil corridor south to Fairbanks, then following the Alaska Highway through the Yukon to Fort Nelson, British Columbia, and Zama Lake, Alberta. Here the gas would enter existing Canadian transmission facilities and flow directly to markets in the American Midwest. For Canada,

this proposal would postpone the unwelcome decision whether, when, how and by whom a Mackenzie pipeline should be built. It would also avoid most of the environmental and social problems associated with the Arctic Gas proposal. Finally, initial capital cost would be \$5-6 billion, about half the cost of the Mackenzie Valley route. Both the government of B.C. and the territorial government of the Yukon enthusiastically endorsed the Alaska Highway proposal, but the Council for Yukon Indians, in its final statement to the Berger inquiry in November 1976, said it wanted no pipeline in the southern Yukon until native land claims were settled and implemented.

Scheduled to report early this year, Berger's commission is the most ambitious public inquiry ever conducted in Canada. For sixteen months now, and 40,000 pages of transcripts later, the man everyone in the North knows simply as "the Judge," has heard testimony on the impact this pipeline will have on the people and the environment of the Mackenzie Valley, an area of some 450,000 square miles stretching from the Beaufort Sea in the north to the sixtieth parallel in the south.

A precise man, Tom Berger conducted the inquiry into the pipeline's engineering, environmental and social problems with strict rules of procedure, often getting tough with the high-priced legal talent and costly consultants who flew in and out of Yellowknife for a daily fee plus expenses. But even the most objective observer could not fail to notice the difference between the formal and the community hearings. To many of the Native people scattered through the vastness of bush and streams, lakes and tundra, Judge Berger had become a kind of folk hero. To the young people, who stood around a little defiantly, waiting, and the old people, who had never seen so many strangers before, the Judge had something the people of the North recognize—integrity. They saw him as honest, decent and fair, and above all he listened. Even when, in the countless, drafty community halls and schools the hearings went on until 2 a.m., and the visiting press groaned and yawned as yet another witness shuffled forward—even then he sat and listened intently. He has used

Continued on page 29



Mackenzie Valley Pipeline

Continued from page 7

freighter canoes, float planes, ancient DC-3s and helicopters to conduct hearings in twenty-eight Arctic settlements, almost all of which, except Yellowknife, have Native majorities. He has listened with awesome patience and politeness to endless hours of testimony in English, Slavey, Dogrib, Loucheux, Hare, Chippewyan and Inuktitut, the language of the Eskimo.

The testimony of the experts over the last several months has elicited serious questions about the pipeline construction from the engineering as well as environmental and sociological points of view. Conflicting testimony has left undetermined the possibility that in sensitive permafrost zones, the pipeline may buckle and damage the environment. Both applicants for the Mackenzie line want to bring in 6,000 construction workers with enormous machines, equipment and staging areas to lay the pipeline. Environmental witnesses, drawing on the experience of the Alyeska oil pipeline crossing similar terrain in Alaska, have raised serious questions that construction companies, trying to meet completion deadlines, would shatter the delicate ecological balance. A number of other technical experts have questioned the safety and proposed size and composition of the pipeline.

Overshadowing the battery of technological evidence, however, has been the complex question of Native land claims, an issue entangled with an incredibly insensitive and archaic bureaucracy in Ottawa designed to administer the lives of Canada's Natives. Simply put, the Natives of the North want their land claims settled before one spadeful of earth is moved, and they do not want them settled by selling off their rights for cash. They want some form of self-determination, development of renewable resources, protection of the environment, their own economic involvement with Northern development and, above all, control of the land they have occupied "since time immemorial."

And so, the Native people have tried to organize themselves and have claimed all 450,000 miles of the Mackenzie Valley as theirs. They are saying that the real question for Canadians to decide is whether Canadian justice can

accommodate them. Can they survive as the first people of this country with special rights, or must they be assimilated and forever cease to exist as a cultural entity? For Native people know, clearly and unequivocally, that in order for them to be themselves, the land and the animals and the birds and the fish must continue to be part of their lives.

If white people come with bulldozers, seismic lines, helicopters, and pipes, then lakes will be blasted and fish and animals most certainly killed. People and machinery will scare away the caribou and the fox. Traditional rutting, nesting and calving areas will be disrupted. If the land is threatened, then so are the Native cultures.

In testimony last April during the socio-economic phase of the Berger inquiry the Natives painstakingly laid out evidence that was a shocking indictment of past injustices in the North by paternalistic federal and territorial governments. They presented an overview of the colonial patterns of resource development and a blueprint for an Indian-controlled future that they claim is constitutional, practical and essential to their very survival. At the center of their struggle is the Dene Declaration, a proclamation that states that the Indian peoples have the right to self-determination within Canada and to a measure of control over their own lives. (*Dene* is an Indian word meaning "people" and common to the Mackenzie.)

Reaction of white northerners

Spurred on by the former Minister of Indian Affairs and Northern Development, Judd Buchanan, who described the document as "gobbledygook" that could have been written by a tenth-grade student, many of the white northern population reacted by leveling accusations of "creeping socialism" and "insurrection" against the Dene, branding them separatists or worse. (Warren Allmand, the new minister, has not committed himself about the pipeline and says he will place a great deal of weight on the Berger Commission report.) Other white northerners, although sensitive to the Natives' claims to the land, feared that if a pipeline were not built they would lose a once-in-a-lifetime chance for better jobs and a healthier economy. And if the Natives were given control over the land, they asked, what would happen to whites? Would they be pushed aside?

The Indian and Metis people themselves did not escape the tremendous pressure exerted upon their lives and communities by the proponents of the Mackenzie Valley pipeline. A small group of Native people, predominantly Metis, who had until recently supported the Dene Declaration and were working in unison to develop a joint land claim, broke away, claiming a separate identity and a desire to develop their own land-claims proposal. A pipeline, they say, is closely linked to their economic future.

Impasse continues

The impasse shows little sign of moderating. In an atmosphere of division and suspicion on the part of Native groups and hostility and confrontation by whites, the government could exert pressure on the Native people to settle their land claims quickly, issue a license to build the pipeline, and start the construction whenever it wished. The result of such an action would be politically explosive. Some Natives have promised quite calmly to lay down their lives for the land. Opposition to the pipeline from southern supporters of Native rights, such as the churches, environmentalists and other public-interest groups, would be enormous. The National Energy Board is already hearing evidence that a pipeline with a life expectancy of twenty years at best, and more likely ten, is only postponing the inevitable day when alternative energy sources and far stricter conservation measures must be taken.

During its southern hearings, the Berger inquiry heard hundreds of citizen-produced briefs supporting the idea of stopping the pipeline altogether or delaying it until further examination of the issues could be undertaken. A church-supported idea for a suggested ten-year moratorium rapidly caught the imagination of Canadians wherever Berger went. In essence, the moratorium would do four things: settle land claims justly for the Native peoples; develop environmental technology and experience in the North so that questions of ecological safety could be guaranteed; allow Native peoples to develop their own economic development programs using renewable rather than nonrenewable resources and to engage in public development of energy policies in Canada based on conservation rather than consumption.

Industry and government quickly

moved to quell support for the proposed moratorium by claiming it to be unrealistic, and by threatening southern Canadians and Americans with "freezing to death in the dark" because of acute energy shortages. Indeed, serious pressures from American consumers in the Midwest have put the issues of environmental protection and Native rights in Canada in the position of being dealt with hastily, inadequately and as secondary to the economic needs of the U.S. But even considering the shortages of natural gas that have plagued the American Midwest and East during this, the coldest of recorded winters, a Mackenzie pipeline is not the only, or even the best, solution. The recently proposed Alaska Highway route would deliver gas to the same region more cheaply and without the attendant social and economic disruption.

The Arctic Gas proposal, one senior Ottawa energy official admitted, is primarily to bring U.S. gas from Alaska across Canada to American markets; any "piggybacking" is window-dressing, for the reserves of gas in Canada are insufficient at this time to warrant a pipeline. Nor are Canadians desperately short of gas. Reserves from conventional fields in the south could probably meet Canadian needs for the next thirty years if deliverability and conservation regulations were improved.

Increasingly nationalistic, many Canadians are sensitive to any further American involvement (already more than seventy-five percent) in their economy. There is fear that the decisions for the Arctic Gas pipeline are to be made in Washington, rather than Ottawa, because of the enormous political persuasion of the giant multinational oil companies, which control most major Canadian producers. Ottawa seems to lack the will to resist. Prime Minister Trudeau went on record two years ago as favoring the Arctic Gas proposal and may think the pipeline is a foregone conclusion.

Berger's decision

Government officials have attempted to undermine Berger's inquiry by saying it is too long (almost two years before completion) or too expensive (an estimated \$3 billion). He gets a little testy with that: "If I'm going to conduct this inquiry, I'm going to do it right. It takes time, but if Canada can't take time to make an informed decision about what is going to happen to our last wilderness and its people in the northland, then what has Canada got time for?"

What Berger will recommend is still a matter for speculation. Many think he will call for a halt until land claims are settled. It seems clear he will require stringent conditions to assure environmental protection. Some peo-

ple hope for a full moratorium. What the government will do with his report is anyone's guess. Undoubtedly Berger's high profile will make it difficult to ignore his recommendations. But regardless of reports, conditions, high-level international politics, energy shortages or national feelings, the people of the Mackenzie and their land remain inseparable. The question for them is clear and it is repeated over and over. It is a question of survival.

Chief Frank T'Selie of Fort Good Hope told Judge Berger and the presidents of Arctic Gas and Foothills how he saw it:

There is a life-and-death struggle going on between us, between you and me. Somehow in your carpeted boardrooms you are plotting to take away from me the very center of my existence. You are stealing my soul. By scheming to torture my land, you are torturing me. By plotting to invade my land, you are invading me. If you ever dig this trench through my land you are cutting through me.

You are the twentieth-century General Custers. You have come to destroy the Dene nation. You are coming with your troops to slaughter us and to steal land that is rightfully ours.

You are coming to destroy a people who have a history of 30,000 years. Why? For twenty years of gas? Are you really that insane?

Our Dene nation is like this great river. It has been flowing before any of us can remember. We take our strength and our wisdom and our ways from the flow and direction that has been established by ancestors we never knew. We will live out our lives as we must and we will die in peace because we will know that our people and this river will flow on after us.

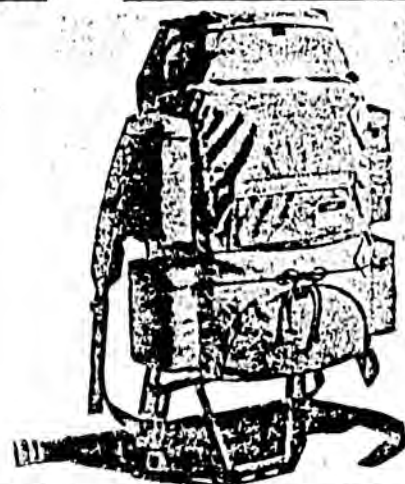
We know that our grandchildren will look after this land and protect it and that 500 years from now someone with skin my color and moccasins on his feet will climb up these ramparts and rest and look out at the river and feel that he too has a place in this universe, and he will thank the same spirits that I thank, that his ancestors have looked after his land well and he will be proud to be a Dene.

It is for this unborn child, Mr. Berger, that my nation will stop this pipeline, it is so that this unborn child can know the freedom of this land that I am willing to lay down my life.

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Decision and Report to Congress on the Alaska Natural Gas Transportation System



TO THE CONGRESS OF THE UNITED STATES:

Natural gas has become the Nation's scarcest and most desired fuel. It is in our interest to bring the reserves in Alaska to market at the lowest possible price. Consequently, I am today sending the Congress my decision and report on an Alaska Natural Gas Transportation System.

The selection of the Alcan project was made after an exhaustive review required by the **Alaska Natural Gas Transportation Act of 1976** determined that the Alcan Pipeline System will deliver more natural gas at less cost to a greater number of Americans than any other proposed transportation system.

The Alcan proposal, taken together with the recently signed Agreement on Principles with Canada, demonstrates that our two countries working together can transport more energy more efficiently than either of us could transport alone.

Unnecessary delay would greatly increase the total cost of the pipeline system. I urge the Congress to act expeditiously to approve this important project.

James H. D.
Department of Law
Division, Alaska

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THE WHITE HOUSE,
September 22, 1977

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OVERVIEW

In the winter of 1967-68 a wildcat rig drilling Prudhoe Bay State Well No. 1. struck a formation that, when later delineated, proved to be the largest petroleum reserve on the North American continent. The Prudhoe Bay field contains over 20 trillion cubic feet of saleable natural gas and more than 9 billion barrels of recoverable oil. **This gas represents approximately 10 percent of the known gas reserves in the United States.**

In 1969, the State of Alaska held a lease sale and received almost \$1 billion in lease bonuses. Shortly thereafter, the three major leaseholders in the Prudhoe Bay Oil Pool announced their intention to build an oil pipeline through Alaska from Prudhoe Bay to a site on the Gulf of Alaska. After an initial flurry of activity, the Trans-Alaskan Pipe Line System (TAPS) became entangled in legal disputes until November of 1973, when the Congress and President approved the plan and provided for expedited procedures. Construction was started immediately thereafter and the first flow of oil through the pipeline commenced on June 20, 1977.

Another set of studies began in 1969 which eventually resulted in applications to the Federal Power Commission (FPC) in the U.S. and the National Energy Board (NEB) in

Canada for a certificate to construct a pipeline to move Alaskan and Mackenzie Delta gas to United States and Canadian markets, respectively, by Arctic Gas (Alaskan Arctic Gas Pipeline Company and Canadian Arctic Gas Pipeline Limited) in March 1974.

In September 1974, El Paso Alaska Company filed an application to transport Prudhoe Bay gas by a pipeline adjacent to TAPS to the Gulf of Alaska, liquify it, and ship it to California by LNG tanker. There the LNG would be regasified and provided to its purchasers either directly or by displacement through existing pipeline facilities.

Under the Trans-Alaska Pipeline Act Congress had authorized and requested the President to determine the willingness of the Government of Canada to authorize a natural gas pipeline for Alaska gas across Canada and whether intergovernmental agreements would be needed to achieve that end. After discussions, the Government of Canada indicated they were prepared to consider an agreement of general applicability as opposed to an agreement on a specific pipeline. Negotiations on a Transit Pipeline Treaty were undertaken, and a treaty was finally signed on January 28, 1977, and entered into force on September 19, 1977. It will govern all existing and future transit pipelines in the two countries for thirty-five years.

On April 7, 1975, a proceeding before FPC Administrative Law Judge Nahum Litt was initiated and over 45,000 pages of testimony and more than 1000 supporting exhibits were compiled before it was concluded. Similar hearings were held by the NEB in Canada.

On July 9, 1976, Alcan Pipeline Company and Northwest Pipeline Company (Alcan) filed the third application with the FPC for a certificate to transport Alaskan gas. The Alcan plan, as modified in March 1977, calls for a pipeline following existing utility corridors from Prudhoe Bay through Canada to the U.S. markets.

Recognizing the shortages of natural gas, the large reserves of natural gas in Alaska, the benefits resulting from the expeditious construction of a transportation system for that gas, and the potentials for delay inherent in the normal regulatory approach to a project of this magnitude, on October 22, 1976, Congress passed the **Alaska Natural Gas Transportation Act of 1976 (ANGTA)**. Designed to draw upon all relevant governmental, public and private expertise in reaching a Presidential and Congressional decision on construction of the best possible Alaska natural gas transportation system, if any, the statute established a unique process for reaching an expedited decision.

This Decision and Report on an Alaska Natural Gas Transportation System meets the statutory decision-making requirements of the Alaska Natural Gas Transportation Act and represents the culmination of the Executive Branch function in the process established by the Bill.

The Act's Statement of Purpose clearly sets out the Congressional objectives:

"Sec. 3. The purpose of this Act is to provide the means for making a sound decision as to the selection of a transportation system for delivery of Alaska natural gas to the contiguous States for construction and initial operation by providing for the participation of the President and the Congress in the selection process, and, if such a system is approved under this Act, to expedite its construction and initial operation by (1) limiting the jurisdiction of the courts to review the actions of Federal officers or agencies taken pursuant to the direction and authority of this Act, and (2) permitting the limitation of administrative procedures and effecting the limitation of judicial procedures related to such actions. To accomplish this purpose it is the intent of the Congress to exercise its Constitutional powers to the

fullest extent in the authorizations and directions herein made, and particularly with respect to the limitation of judicial review of actions of Federal officers or agencies taken pursuant thereto."

Shortly after the passage of ANGTA, Judge Litt concluded the FPC hearing and on February 1, 1977 issued the Initial Decision favoring the Arctic proposal. According to the provisions in the Act, on May 2, 1977, the FPC made its Recommendation to the President in which it recommended an overland route through Canada but divided 2-2 on the choice between Alcan and Arctic Gas.

As required in the Act, comments on the Recommendation of the FPC were made to the President on July 1, 1977, by ten interagency task forces and a wide spectrum of non-Federal government officials and other interested persons. While generally supportive of the FPC Recommendation, they raised important questions regarding virtually every major element of the Recommendation.

On July 4, 1977, Canada's NEB made its decision regarding an overland pipeline system through Canada. It found the Arctic Gas proposal "environmentally unacceptable" and stated it was prepared to certify Alcan conditioned upon several modifications of the Alcan system recommended

by the FPC. Within a few weeks, an interagency group of U.S. negotiators began meeting with Canadian officials to explore the boundaries of the Canadian option to enable the President to make an informed decision under the Act.

On September 1, the President announced a deferral in transmitting the decision to the Congress to complete negotiations with the Canadians. After intensive negotiations, President Carter and Prime Minister Trudeau announced in Washington on September 8, that both countries had reached an agreement in principle on a joint project for the transportation of Alaskan and Canadian gas. The President and Prime Minister noted the superiority of a joint project to any unilateral undertaking by either government. In addition to announcing an intention to sign a formal Agreement on Principles concerning the project, both governments pledged to seek approval from their respective legislatures of expedited provisions for project construction and operation.

With the signing of the Agreement on Principles applicable to a Northern Natural Gas Pipeline in Ottawa on September 20, 1977, the President transmitted the Decision favoring the Alcan project to the Congress for its approval. The Congress has sixty legislative days within which to act upon a joint resolution of approval.

The Agreement on Principles, as incorporated in the Decision of the President, provides the framework for a clearly specified, economically efficient, and environmentally superior means of transporting both U.S. and Canadian gas to markets through a joint pipeline system. Approval of the Decision, which incorporates the Agreement on Principles, will provide the same type of commitment by the United States to this undertaking as will result from passage of the implementing legislation which Prime Minister Trudeau has announced will be submitted to Parliament in October.

This Decision is supported by a strong record and recommendation from the FPC, substantial comments from all parties of interest and a clear and cogent agreement with the Canadian government that provides significant benefits for both countries.

* * * * *

The proposed Alcan system will deliver Alaska gas at the lowest cost-of-service to U.S. consumers -- probably below the cost of imported oil and substantially below the costs of other fuel alternatives. The average price of distillate from imported oil over the life of the project

is expected to be in excess of \$3 per million btu's (mmbtu) in constant 1975 dollars. The average delivered price of Alaska gas for the same period will be substantially less even with a significant allowance for cost overruns. The Alcan system will deliver Alaskan gas at the lowest cost to U.S. consumers, but will do so directly to both the Midwest and West Coast markets. Furthermore, the Alcan system will increase the ability of Canada to develop its own frontier gas reserves, particularly in the Mackenzie Delta, through connection of the proposed Dempster Highway lateral pipeline with the Alcan mainline from Alaska. If Mackenzie Delta gas is brought to Canadian markets, U.S. consumers might also benefit from the enhanced availability of Canadian supplies.

Under almost all criteria, the Alcan system is clearly superior to the proposal by the El Paso Alaska Company to liquefy Alaska gas and ship it to the West Coast. Over a 20-year period, the Alcan system would deliver Alaska gas to U.S. consumers at a significantly lower average cost-of-service than El Paso. In 1975 constant dollars the 20-year average cost of service for Alcan is estimated to be \$1.04 per mmbtu, and \$1.21 per mmbtu for El Paso. The difference represents ultimate savings of \$6 billion

American consumers over the life of the Alcan project. Alcan also can move the same volume of gas with a higher fuel efficiency, and will have much lower annual operating costs than the El Paso LNG system.

Alcan also has a markedly greater Net National Economic Benefit (NNEB) than El Paso. The calculation of the NNEB compares the present value of real resource expenditures for a project with the present value of future benefits. Alcan has an estimated NNEB of \$5.77 billion, more than \$1.1 billion higher than the estimated NNEB of El Paso.

In addition to these economic advantages, Alcan has significant technical and resource advantages over El Paso. These include:

- the superiority of pipeline transportation over LNG transportation for the safest and most reliable delivery of gas, and for expansibility of capacity to deliver increased volumes from reserves other than the Prudhoe Bay Pool;
- the substantial advantage of pipeline facilities over LNG facilities in having a useful life of over 40 years;

- the need to anticipate future shipment of natural gas from the Gulf of Alaska which may require LNG deliveries to the West Coast, thus preserving LNG delivery potential on the West Coast.

Furthermore, virtually all Federal agencies and private parties that compared the two projects determined that the Alcan system is environmentally superior to El Paso.

The Agreement with Canada on the Alcan system assures the cost-of-service advantages of the Alcan proposal. The Agreement provides that the Alcan pipeline will follow the original Alcan Highway route, without the route diversion required by the NEB. This provision alone saves the U.S. consumer up to \$600 million in initial construction costs, plus interest, or the 6 cents in cost of service that would have been added by the route diversion. In return, the U.S. agreed to pay a portion of the cost for an extension of the Dempster Lateral from Dawson to Whitehorse in the Yukon -- if and when the lateral is built. This limited extension, or "spur," would connect the Dempster line with the main Alcan system. A higher capacity, more efficient system will be installed south of Whitehorse, with costs shared on a volumetric basis, to carry U.S. and Canadian volumes.

Significantly, under the Agreement, the U.S. share of costs for the "spur" from Dawson to Whitehorse is tied to the percent of **actual cost overruns** on the construction of the Alcan main line in Canada. This element of the Agreement creates a formidable incentive for Canada to minimize cost overruns on the construction of the Alcan line in Canada. In addition, the Agreement protects the Alcan pipeline from **unfair or discriminatory** taxes that might threaten the cost of service advantages of Alcan for U.S. consumers. The provisions in the Agreement provide a ceiling on the imposition of Yukon taxes, and supercede the previous ~~and~~ recommendation for a \$200 million impact assistance payment from U.S. consumers to the Yukon. Any advance payment of tax by the pipeline will be treated as a loan to the government, to be paid back with interest from future tax revenues, but in no event will the loan affect the cost of service to U.S. consumers. The fixed level of overall tax is only a modest increase above the level of tax included in the original estimates for Alcan's cost of service, and has been fixed with reference to the tax regime applicable in Alaska.

In this Agreement, the United States and Canada both improved their positions from the original NEB decision, and achieved a reduction in the cost of service price of both Alaskan gas and Canadian gas from the Mackenzie Delta. The modified Alcan system will also:

- assist Canada to continue supplying gas exports under existing contracts by providing it with access to substantial Mackenzie Delta reserves;
- provide the opportunity to obtain additional gas at an earlier date by early construction of portions of the southern Canadian and lower 48 sections of Alcan, with delivery of gas from Alberta (where there is temporary excess supply) in advance of the delivery of Alaska gas;
- encourage exploration for new reserves and stimulate expansion of the gas industry in Canada, which might ultimately benefit U.S. consumers through the enhanced potential of Canadian supplies.

Furthermore, this joint U.S.-Canadian undertaking could result in significant cooperation with Canada on a variety of other energy issues, such as oil exchanges, pipelines and strategic reserves.

The Alcan project will be one of the largest -- if not the largest -- privately financed international business ventures of all time. The minimal risk of non-completion will be borne by the private financial markets. **There will be no Federal debt guarantees, and consumers will not be required to bear any portion of the risks of non-completion.**

The Federal Government, however, will have an expanded and significant role in monitoring and overseeing the construction of the project. By enforcement of the terms and conditions proposed herein and to be later specified, the **Federal Inspector** for the construction of the project will coordinate Federal involvement with the project, minimizing cost overruns, preventing management abuses, and facilitating the timely completion of construction. The U.S.-Canadian Agreement provides additional incentives to minimize cost overruns on construction in Canada. The Decision, including the Agreement, seeks to ensure that U.S. consumers will have the enormous benefit of new Alaskan gas supplies at a price significantly below that of alternative energy sources.

A superior project has now been selected as a result of a thorough decision making process involving all the resources of the Federal Government and a spirited competition between private alternatives. The nation sorely needs new sources of economically competitive natural gas. Now is clearly the time to approve the decision to undertake the final planning and construction of this cost-efficient system for bringing critical supplies of Alaska natural gas to U.S. markets.

DECISION ON AN ALASKA
NATURAL GAS TRANSPORTATION
SYSTEM

PREFACE - STATUTORY REQUIREMENTS FOR A DECISION ON AN ALASKA
NATURAL GAS TRANSPORTATION SYSTEM

Section 7(a)(4) of the Alaska Natural Gas
Transportation Act of 1976 (ANGTA) states:

If the President determines to designate for approval a transportation system for delivery of Alaska natural gas to the contiguous States, he shall in such decision-

(A) describe the nature and route of the system designated for approval;

(B) designate a person to construct and operate such a system, which person shall be the applicant, if any, which filed for a certificate of public convenience and necessity to construct and operate such system;

(C) identify those facilities, the construction of which, and those operations, the conduct of which, shall be encompassed within the term "construction and initial operation" for purposes of defining the scope of the directions contained in Section 9 of this Act, taking into consideration any recommendation of the Commission with respect thereto; and

(D) identify those provisions of law, relating to any determination of a Federal officer or agency as to whether a certificate, permit, right-of-way, lease, or other authorization shall be issued or be granted, which provisions he finds (i) involve determinations which are subsumed in his decision and (ii) require waiver pursuant to Section 8(g) in order to permit the expeditious construction and initial operation of the transportation system.

As part of these determinations, an Agreement on Principles concluded with the Government of Canada prescribes various terms and conditions applicable to the construction and operation of the pipeline. The Agreement on Principles is attached hereto as Section 7 of this Decision and made an integral part of the Decision by this reference.

With the incorporation of the aforesaid Agreement, and the finding that it is in the national interest to expeditiously undertake to construct an Alaska Natural Gas Transportation System, the system designation and related statutory determinations are as follows:

SECTION 1 - DESIGNATION OF PERSON TO CONSTRUCT AND OPERATE
THE SYSTEM

The Alcan Pipeline Company, now a wholly owned subsidiary of Northwest Pipeline Corporation^{1/}, or its successor, is hereby designated to construct and operate the portion of the system within the State of Alaska.

The Northern Border Pipeline Company, a partnership consisting of subsidiaries or affiliates of Columbia Gas Transmission Corporation, Michigan-Wisconsin Pipeline Company, Natural Gas Pipeline Company of America, Northern Natural Gas Company, Panhandle Eastern Pipe Line Company, and Texas Eastern Transmission Corporation, or its successor, is hereby designated to construct and operate the portion of the system from the United States-Canada border near Monchy, Saskatchewan, to a point near Dwight, Illinois.

The Alcan Pipeline Company, or its successor, and the Northern Border Pipeline, or its successor, shall be publicly held corporations or general or limited partnerships, open to ownership participation by all persons

^{1/} Northwest Pipeline owns and operates a 4,300-mile pipeline system for transporting gas in the states of Colorado, Idaho, Nevada, Oregon, Utah, Washington, and Wyoming. Northwest Pipeline is a wholly-owned subsidiary of Northwest Energy Company, a holding company whose principal asset is all the outstanding common stock of Northwest Pipeline.

without discrimination, except producers of Alaskan natural gas.

The Pacific Gas Transmission Company is hereby designated to construct and operate the portion of the system from the United States/Canada border near Kingsgate, British Columbia, to the border between the States of California and Oregon.

The Pacific Gas and Electric Company is hereby designated to construct and operate the portion of the system from the border between the States of California and Oregon through the State of California.

SECTION 2 - DESCRIPTION OF THE NATURE AND ROUTE OF THE
APPROVED SYSTEM

The Alcan system is an overland pipeline system to transport natural gas from the Prudhoe Bay area of Northern Alaska through Alaska and Canada into the Midwest and Western sections of the contiguous United States. See Exhibit 1.

The expected volume of gas to be available initially from the Prudhoe Bay field is **2.0 to 2.5 billion cubic feet per day (bcfd)**. The system described herein is designed to handle this throughput volume. The capacity of the system could be increased in the future to accommodate additional volume throughput by construction of additional facilities.

Alcan Pipeline Route in Alaska

The proposed Alcan pipeline will commence at the discharge side of the gas plant facilities in the Prudhoe Bay field. The pipeline will parallel the Alyeska oil pipeline southward from the North Slope of Alaska, cross the Brooks Range through the Atigun Pass, and continue on to Delta Junction.

At Delta Junction, the Alcan Pipeline will diverge from the Alyeska oil pipeline and follow the Alaska Highway and the Haines oil products pipeline right-of-way, passing near the towns of Tanacross, Tok, and Northway Junction

in Alaska. The right-of-way of the Haines oil products pipeline is at present approximately fifty feet wide and is closely parallel to the Alaska Highway. The Alcan pipeline will then connect with the proposed new facilities of Foothills Pipe Lines (South Yukon) Ltd. at the Alaska/Yukon Territory border.

From Prudhoe Bay to Delta Junction, Alcan expects to construct its line approximately eighty feet from the Alyeska oil pipeline. As proposed by Alcan, construction will be carried out by extending the existing Alyeska work pads. However, Alyeska advised Alcan that its "preliminary general guidelines" indicate that **the Alyeska and Alcan lines must be separated by 100 to 200 feet where blasting to build the pipeline trench would occur** (approximately 350 miles of pipeline length). Additional studies will determine the minimum distance between the Alyeska oil pipeline and the Alcan line that is necessary to permit safe construction and operation.

Alcan Pipeline Route Through Canada

The Canadian portion of the Alcan Project will commence at the Alaska/Yukon border in the vicinity of the towns of Border City, Alaska and Boundary, Yukon.

From the Alaska/Yukon border, the Foothills Pipe Lines (South Yukon) Ltd. pipeline will proceed south until it

reaches the White River (milepost 44), where it will take a more eastward course across the Yukon Territory. The pipeline will cross the Territory generally parallel to the Alaska Highway. Along most of the pipeline route through the Yukon, the separation between the pipeline route and highway route will be approximately one mile. There will be several points, however, where the pipeline route will divert substantially from the route of the Alaska Highway. These departures from the Alaska Highway route will permit the pipeline to continue on a more direct course than if it were to follow the Alaska Highway.

At approximately milepost 246, the pipeline will be routed north of Whitehorse and cross the Yukon River near the intersection of the Alaska and Klondike Highways. Near this intersection, approximately 9 miles northwest of Whitehorse, the pipeline will be constructed to permit a later connection with the proposed Dempster Line from the Mackenzie Delta, if and when the Dempster Line is constructed.

After it crosses the Yukon River north of Whitehorse, the pipeline will turn southeast and again travel parallel to the Alaska Highway, entering British Columbia at approximately milepost 397 and reentering the Yukon Territory at approximately milepost 435. The pipeline will continue

to follow the Alaska Highway eastward through the Yukon Territory and again cross the border into British Columbia, approximately twelve miles southwest of Watson Lake, Yukon. At this point, the Foothills Pipe Lines (South Yukon) Ltd. pipeline will terminate, and the Foothills Pipe Line (North B.C.) Ltd. interconnecting pipeline will commence.

After it passes the British Columbia border, the pipeline will proceed generally southeast across the northeastern part of the Province to the British Columbia/Alberta border, crossing the existing Westcoast Transmission Company Ltd. main line some 35 miles south of Fort Nelson. At Boundary Lake on the British Columbia-Alberta border, the pipeline would connect with the Foothills Pipe Lines (Alta.) Ltd. pipeline. In Alberta, the Foothills Pipe Lines (Alta.) Ltd. pipeline will proceed generally southeast from Boundary Lake to Gold Creek Junction. After Gold Creek Junction, the pipeline will follow the existing Alberta Gas Trunkline Co., Ltd. (AGTL) pipeline right-of-way to James River Station.

From James River Station, the western leg of the pipeline will proceed separately to the south, approximately following the existing AGTL right-of-way to the Alberta/British Columbia border near Coleman, Alberta. It will then connect with the Foothills Pipelines (South B.C.)

Ltd. pipeline, continue to the southwest across British Columbia, and finally connect with the Pacific Gas Transmission (PGT) pipeline at the United States/Canada border near Kingsgate, British Columbia. The pipeline route through southern British Columbia will generally parallel the existing pipeline route of Alberta Natural Gas Company Ltd.

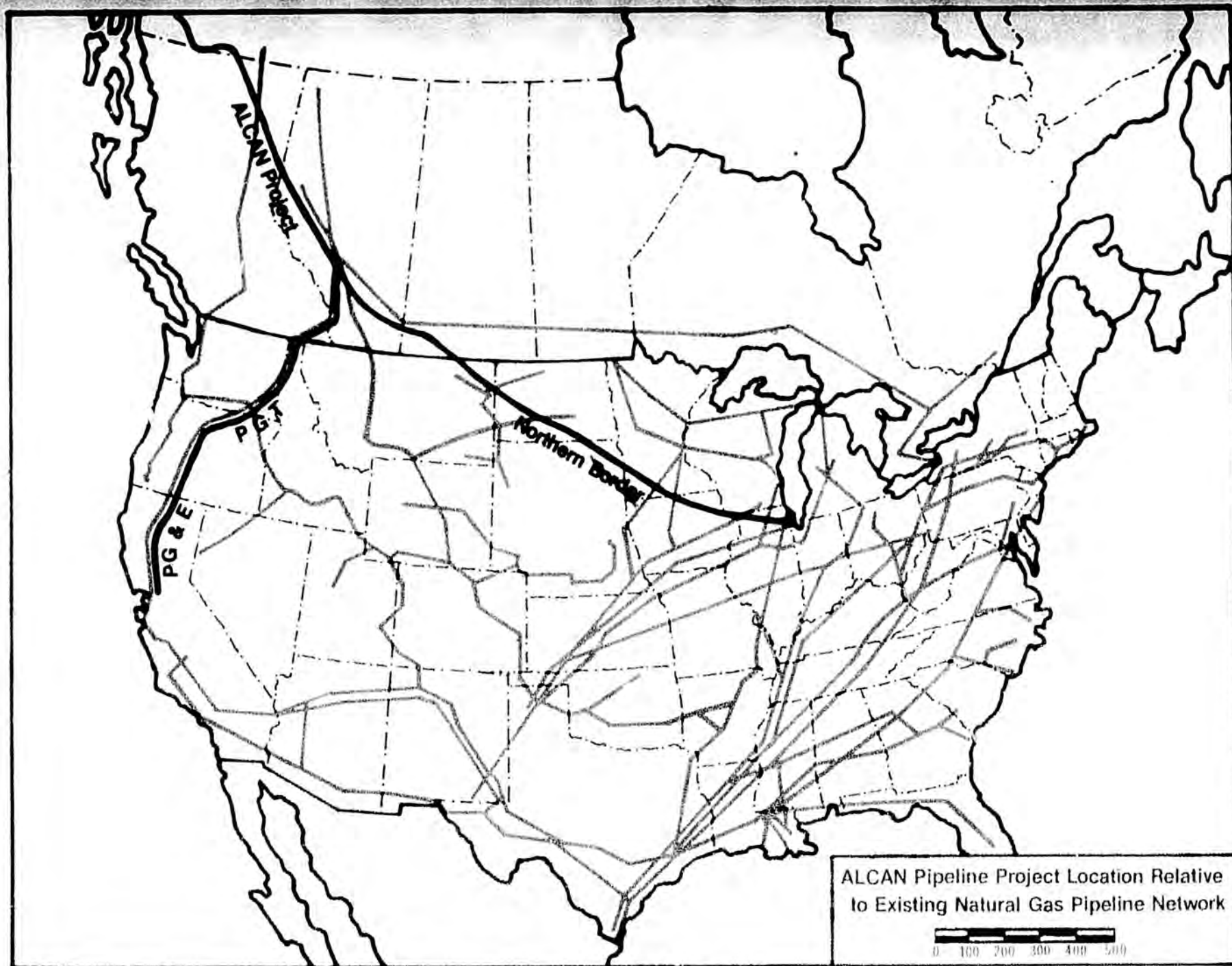
For the eastern leg from the James River Station, the pipeline will proceed generally to the southeast until it reaches the Alberta/Saskatchewan border near Empress, Alberta. The eastern leg will then connect with the Foothills Pipe Lines (Sask.) Ltd. pipeline. The pipeline will then continue to the southeast across Saskatchewan and join with the Northern Border Pipeline system at the United States/Canada border near Monchy, Saskatchewan.

Alcan Pipeline Route in the Contiguous United States

On the western leg, the Alaska gas will be transferred at the United States-Canada border near Kingsgate, British Columbia, to the PGT system. The PGT system will transport the gas through northern Idaho, southeast Washington, and central Oregon. At the Oregon/California border, the gas will be transferred to enter the Pacific Gas and Electric Company (PG&E) system and will then be transported throughout California.

On the eastern leg the Alaska gas will be transferred at the Saskatchewan/Montana border from the Canadian-owned portion of the Alcan system to the Northern Border Pipeline system. The Northern Border Pipeline system will then transport the gas across the northeast corner of Montana, the southwest section of North Dakota, the northeast section of South Dakota, the southwest corner of Minnesota, and the northeast section of Iowa, and finally bring the gas just south of Chicago to Dwight, Illinois.

Exhibit 2 on the following page illustrates the respective routes of the eastern and western legs of the Alcan system and their relationship to the existing gas pipeline network in the United States.



SECTION 3 - IDENTIFICATION OF FACILITIES INCLUDED WITHIN
"CONSTRUCTION AND INITIAL OPERATION"

General Project Description

This section identifies the facilities for the Alcan project which will be entitled to the expedited authorization process prescribed in Section 9 of ANGTA. The facilities which are to be covered are those in the U.S. which are adequate for a throughput of up to 2.4 bcfd and are included in the revised Alcan filing submitted to the Federal Power Commission (FPC) in March 8, 1977. If any modifications to those facilities are required by the Agreement on Principles between the U.S. and Canada, those modified facilities will also be entitled to the expedited authorization process in Section 9.

Uncertainties remain as to the future level of gas exports from Canada's historical gas supply sources. The actual division of Alaska gas among the various regions of the contiguous United States awaits conclusion of gas sales contracts. Routing and design work should be sufficiently complete to allow final certification in late 1978 or early 1979. The final design and location of the facilities, however, will be within the general description set forth.

The gas transportation system will utilize a 48-inch diameter pipeline from Prudhoe Bay to James River, Alberta.

From James River, gas destined for the midwestern and eastern states will be transported through a 42-inch diameter pipeline to Monchy, Saskatchewan, and gas destined for the western states will be transported through a 36-inch pipeline to Kingsgate, British Columbia. PGT and PG&E will complete looping^{2/} as necessary of their existing pipeline systems from the Idaho-British Columbia border to Antioch, California (near San Francisco) with a 36-inch diameter pipeline.

All of the pipeline in Alaska and the first forty-one miles of pipeline in the Yukon lie in the continuous and discontinuous permafrost region.^{3/} This section will be operated in a chilled state (i.e., below 32°F.) to prevent degradation of the permafrost regime. Gas chilling

^{2/} "Looping" is construction of a pipeline parallel to and interconnected with an existing pipeline. Looping may extend to part or all of an existing line.

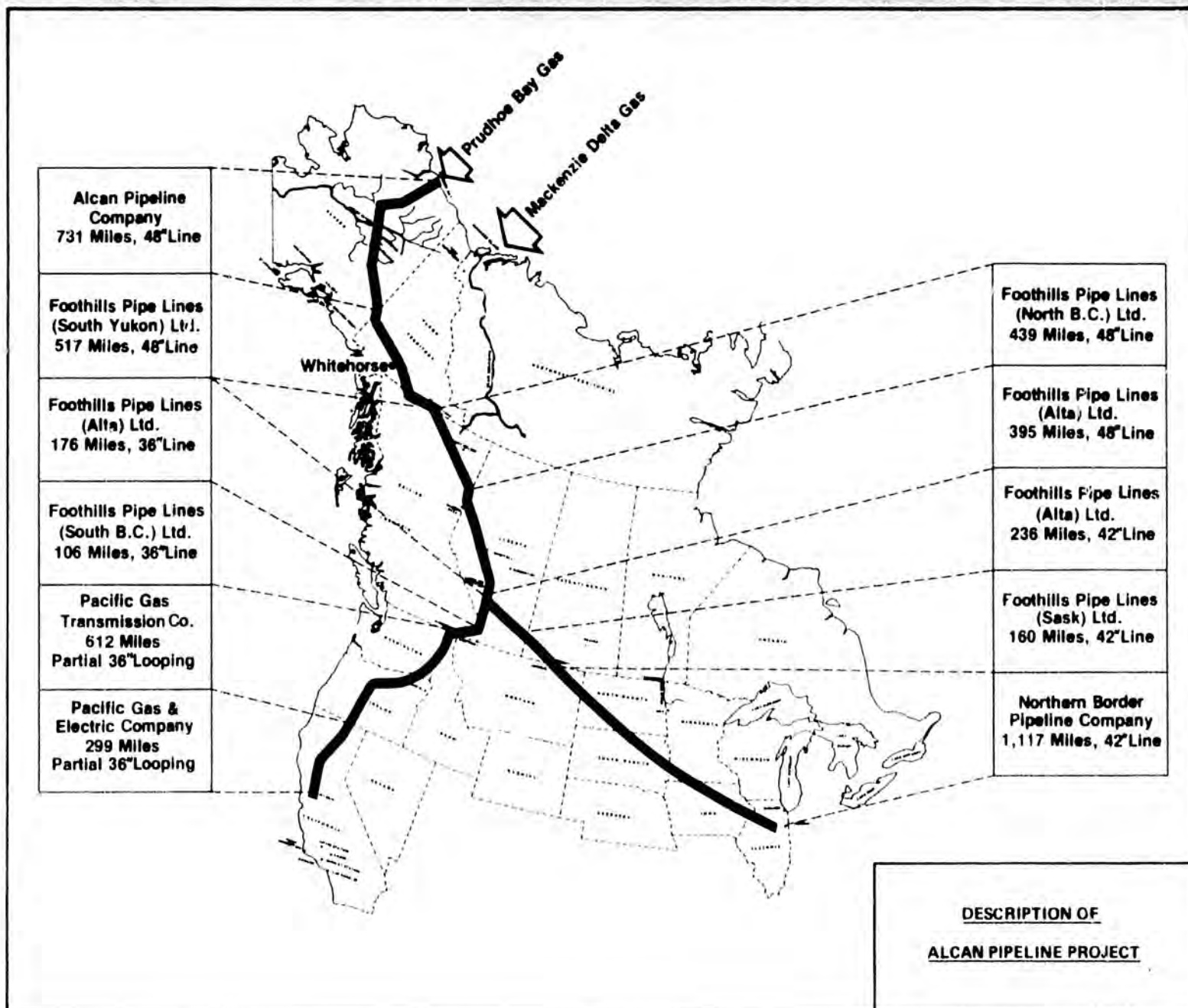
^{3/} By definition, permafrost consists of soil, rock, or other earth material, the temperature of which remains at or below 32°F. (0°C) continuously for two or more years. Its distribution is not uniform. Factors controlling the distribution of permafrost include the glacial and climatic history of the area, thermal properties of the earth material, ambient temperature, insulation properties of overburden, and amount of exposure to sun (e.g., shading caused by orientation of topographic features). The permafrost would be continuous along approximately the first 240 miles of the pipeline (to near the South Fork of the Koyuk River). Along the remaining pipeline route to the Yukon border, the permafrost would be discontinuous.

will be accomplished by propane refrigeration systems at all compressor stations in Alaska.

The length of the various pipeline segments will be as follows:

<u>Company</u>	<u>Location</u>	<u>Length (Miles)</u>
Alcan Pipeline Company	Alaska	731
Foothills Pipe Lines (South Yukon) Ltd.	Yukon	517
Foothills Pipe Lines (Sask.) Ltd.	Saskatchewan	160
Foothills Pipe Lines (North B.C.) Ltd.	Yukon/B.C. Border to B.C./Alberta Border	439
Foothills Pipe Lines (South B.C.) Ltd.	Coleman to Kingsgate	106
Foothills Pipe Lines (Alta.) Ltd.	B.C./Alberta to James River	395
	James River to Coleman	176
	James River to Empress	235
	Total Alaska and Canada	<u>2,759</u>
Pacific Gas Transmission Co.	Kingsgate to Malin	612
Pacific Gas & Electric Co.	Malin to Antioch	299
Northern Border Pipeline Co.	Monchy to Dwight	<u>1,117</u>
	Total Contiguous States	<u>2,028</u>
	Total System Length	<u><u>4,787</u></u>

Exhibit 3 on the next page identifies and locates the various pipeline segments.



Peak-day capacity utilizing nine compressor stations (see item 4 below) will be 2.6 bcfd, with an average daily volume of 2.4 bcfd. By installation of intermediate compressor stations, the system could be increased to 3.4 bcfd peak capacity, with an average day capacity of 3.2 bcfd. The system capacity could be further increased by addition to the compressor horsepower at each station.

Alcan Compressor Stations and Refrigeration
Facilities in Alaska

Centrifugal compressors, powered by natural gas-fueled turbine engines, will be used on the Alcan system. In order to minimize thawing of the permafrost soil, the discharge gas at each compressor station in Alaska will be chilled by a propane refrigeration plant. The following describes the required compression and refrigeration facilities. All of these facilities are required for construction and initial operation.

<u>Station</u>	<u>Milepost</u>	<u>Number of Gas Compressors</u>	<u>Total Installed Horsepower (ISO)</u>	
			<u>Gas Compression</u>	<u>Gas Refrigeration</u>
AL-1	75.0	1	26,500	7,660
AL-2	133.0	1	26,500	7,660
AL-3	242.3	1	26,500	13,830
AL-4	331.8	1	26,500	13,830
AL-5	418.8	1	26,500	13,830
AL-6	504.7	1	26,500	13,830
AL-7	589.9	1	26,500	13,830
AL-8	673.4	1	26,500	13,830
TOTAL		8	212,000	98,300

Other Alcan Pipeline Facilities in Alaska

Metering facilities for the measurement of gas flow and gas quality will be required in Alaska at the Prudhoe Bay receipt point, at the Fairbanks sales point, and at the transfer point on the Alaska-Yukon border.

A central operating center, located in Fairbanks, will monitor and control all compressor station operations.^{4/}

Alcan will utilize staging areas established for the Alyeska oil pipeline at Prudhoe Bay, Fairbanks, and Valdez. Material storage sites will be located at Anchorage, Seward, and Whittier, and at selected locations along the pipeline route.

Existing transportation and communication facilities will be utilized to the fullest extent practicable. Short lateral roads will be constructed to pipeline facilities as required.

Permanent bases for operating and maintaining the system will be selected and located after defining areas in which common problems may occur due to similarities of terrain and

^{4/} The compressor stations will be automated for remote control of all normal functions, including discharge gas temperature.

climate. The bases will be located at or near compressor stations to avoid duplication of permanent above-ground facilities. Materials and various spare parts will be located at the bases to facilitate maintenance and repair operations.

All of these facilities will be required for construction and initial operation.

Lower 48 Facilities

For purposes of this part of the Decision, the facilities described generally below are deemed necessary for construction and initial operation, and will be entitled to expedited issuance of authorizations pursuant to Section 9 of ANGTA, provided that the final certification of such facilities shall be determined by reference to the size necessary to provide the transportation capacity certified to the FPC^{5/} by the Secretary of Energy, as set forth in the terms and conditions section.

^{5/} The final certification function currently resides with the Federal Power Commission under the Natural Gas Act. On October 1, 1977, the Department of Energy will be activated pursuant to the Department of Energy Organization Act, Public Law 95-91, and the functions of the FPC under the Natural Gas Act will be transferred in part to the Federal Energy Regulatory Commission (FERC). Therefore, where reference is made herein to future actions of the FPC, they will be carried out by either the Secretary or the FERC, as the case may be, as of October 1, 1977.

In order to deliver gas contemporaneously to points both east and west of the Rocky Mountains in the lower continental United States, the Alcan system will bifurcate at James River, Alberta and form a Western Leg and an Eastern Leg. First, the Western Leg is described below, and then the Eastern Leg.

Western Leg

Alaskan gas will be transferred at the Canada/United States border near Kingsgate, British Columbia, to Pacific Gas Transmission Company (PGT). PGT will transport the gas through Idaho, Washington, and Oregon. At the Oregon/California border, the gas will enter the intrastate facilities of Pacific Gas and Electric Company (PG&E). The gas will be transported throughout much of California through existing and expanded intrastate gas pipelines.

The additional Western Leg facilities which are part of the Alcan project are those covered by the "1580 Design." The major component of this expansion will add approximately 873 miles of looping and result in complete looping of the 917-mile PGT/PG&E system from the Canada/United States border to Antioch, California (near San Francisco). The two parallel lines will be operated as a single system. Various modifications to the existing compression facilities will be required. However, the increase in system

capacity of 659 mmcf/d could be achieved without installation of additional compression horsepower or increase of compression fuel usage. A minor addition of facilities south of Antioch may be made at a later date, depending on conditions prevailing at that time. All Western Leg facilities which are part of the Alcan project are subject to Section 9 of ANGTA.

The Eastern Leg

The Alcan system will transport Alaskan gas for delivery to Midwestern and Eastern markets in the lower continental United States through an Eastern Leg. The Eastern Leg will commence at the bifurcation point of the main express line at James River, Alberta and terminate at Dwight, Illinois (near Chicago). Total length of the Eastern Leg will be 1,352 miles, including 235 miles in Canada and 1,117 miles in the United States. All pipeline for the Eastern Leg will be 42 inches in diameter.

Alaskan gas will be transferred at the Saskatchewan/Montana border from the Canadian-owned portion of the Alcan system to the Northern Border Pipeline system (Northern Border). The Northern Border system will travel diagonally across Montana, North Dakota, South Dakota, Minnesota, and Iowa, and terminate near Chicago, Illinois. Along this

route, direct deliveries of gas will be made by Northern Border into the systems which cross the pipeline: Natural Gas Pipeline Company of America, Northern Natural Gas Company, and Michigan-Wisconsin Pipeline Company. Other purchasers will receive Alaska gas by displacement.^{6/}

The specific facilities that will be required to interconnect the various pipelines to receive gas from the Northern Border system, either by direct delivery or by displacement, will be determined when gas sales contracts have been executed. Final design of the required facilities will depend upon the division of Alaskan gas among the various pipeline companies and various regions of the contiguous States. Final design will be complete at the time of final system certification in late 1978 or early 1979. All facilities which are part of the Northern Border system are necessary for construction and initial operation, and all facilities which are part of the Northern Border system as finally certified by the FPC are subject to Section 9 of ANGTA.

^{6/} "Displacement" of gas is a method by which gas may be supplied to a purchaser from close by in exchange for gas sold to the purchaser elsewhere. Displacement, which is a commonly used method in the gas industry, eliminates the cost of physically transferring gas between markets.

SECTION 4 - DELINEATION OF PROVISIONS OF LAW THAT ARE
SUBSUMED IN THIS DECISION AND REQUIRE WAIVER

Under Section 7(a)(4)(D) of ANGTA, the President shall identify those provisions of law, relating to any determination of a Federal officer or agency as to whether a certificate, permit, right-of-way, lease, or other authorization shall be issued or be granted, which provisions the President finds (i) involve determinations which are subsumed in his decision and (ii) **require waiver** pursuant to section 8(g) in order to permit the expeditious construction and initial operation of the transportation system.

At this time, however, there are only two statutory provisions that involve determinations subsumed in this decision and require waiver pursuant to section 8(g) of ANGTA.7/

Under Section 3 of the Natural Gas Act (15 U.S.C. 717b), the Federal Power Commission must issue an order to authorize any export of natural gas; such an order shall

7/ Section 8(g)(1) of ANGTA states that the President will have the opportunity at a later date to identify and **seek waiver** of additional provisions of law. This subsection states:

At any time after a decision designating a transportation system is submitted to the Congress pursuant to this section, if the President finds that any provision of law applicable to actions to be taken under subsection (a) or (c) of section 9 require waiver in order to permit expeditious construction and initial operation of the approved transportation system, the President may submit such proposed waiver to both Houses of Congress.

issue unless the Commission finds that the export is not consistent with the public interest.

In addition, under Section 103 of the Energy Policy and Conservation Act, the President is required to promulgate a general rule prohibiting exports of natural gas from the U.S., except that he may permit those exports which he determines to be consistent with the national interest and with the purposes of the Act (Section 103(b)(1)). To make such a determination, Section 103(d)(1) directs the President to take into account the need to leave uninterrupted or unimpaired "exchanges in similar quantity for convenience or increased efficiency of transportation with persons or the government of a foreign state."

As a result of the recent Agreement on Principles between the United States and Canada, Alcan will be required to make available limited quantities of Alaskan gas to communities in the Yukon Territory and the western provinces, subject to provision of replacement gas downstream in Canada. This transaction will be an export requiring separate authorizations under the above mentioned two statutes.

The requirements arising under Section 3 of the Natural Gas Act and under Section 103 of the Energy Policy and Conservation Act could be met without waiver of these provisions, but additional, and unnecessary, FPC and Presidential action would be required. Accordingly, both of these statutory subsections shall be waived for the exchange of gas mentioned herein.

SECTION 5 - TERMS AND CONDITIONS AND ENFORCEMENT

To ensure the proper management and timely completion of the construction of the designated transportation system, the following general terms and conditions shall be appropriately incorporated into any certificate, right-of-way, lease, permit or authorization directed to be made by any Federal officer or agency.

As described more fully below, these terms and conditions will be followed by a set of stipulations establishing general standards of environmental and construction performance, and the procedures for the submission and approval of construction plans and environmental safeguards, and then by site specific terms and conditions issued prior to actual construction of any pipeline segment. The terms and conditions described here are not meant to limit or foreclose the adoption of such stipulations and terms and conditions but are intended to begin the process by which a set of effective and workable safeguards are evolved. There is contemplated cooperative action by the Federal and Alaska State Governments in the development and enforcement of stipulations and site specific terms and conditions. Similar cooperative action is contemplated with the governments of all affected states.

Under the proposal made at the end of this section for the organizational involvement of the Federal Government with the successful applicant, the Federal Inspector for construction of the transportation system shall have supervision authority over the enforcement of these terms and conditions subject to the ultimate authority of the Executive Policy Board described below.

Terms and Conditions

The terms and conditions proposed for inclusion into this Congressional authorization are set forth, by category, as follows:

I. Construction Costs and Schedule

Management and Organization

1. Prior to the issuance of the certificate, the successful applicant shall provide a detailed overall management plan, to be approved by the Federal Inspector, for the preconstruction and the construction phases of the transportation system project. The successful applicant shall define its relationship with the execution contractors, and shall give consideration to various management approaches -- such as Fast Track, Stage Design, and other management

approaches -- that will facilitate the cost-effective, environmentally sound, and timely construction of the project.

2. The successful applicant may not use cost-plus type contracts with execution contractors, except where the Federal Inspector determines that special conditions warrant this type of contract. Otherwise, the applicant shall use fixed-price contracts, including the firm fixed-price, the fixed-price with escalation, and fixed-price incentive type of contract.

3. The successful applicant shall specify for approval of the Federal Inspector the insurance, bonding, and any other prequalification requirements for all consultants and execution contractors.

Construction Cost and Schedule Control Techniques

4. Prior to the initiation of construction, the successful applicant shall provide a detailed analysis and description of its proposed cost and schedule control techniques. The applicant shall give particular consideration to cost and manpower control and manpower estimating techniques.

5. Prior to the initiation of construction, the successful applicant shall develop and submit to the Federal Inspector a **final design, design-cost estimate, and construction schedule.**

This design cost estimate and schedule must represent a construction design of at least 70 percent (or greater) of the total system, and the remainder may not represent any one contiguous or specific type of construction or geologic situation (e.g., river crossings, discontinuous permafrost, or elevated pipeline). The Federal Inspector may relax the above specified minimum percentage requirement, with the consent of the Executive Policy Board, if he finds there are extenuating circumstances that warrant such an action.

General Operating Strategies

6. The successful applicant shall develop and submit to the Federal Inspector cost-effective and feasible methods for supplying general and specialized equipment, as well as repair facilities and spare-part inventories, to the execution contractors. The applicant

shall give consideration to various techniques of equipment provision, including use of equipment pools, equipment leasing or buy-backs.

7. Prior to the initiation of construction, the successful applicant shall supply detailed information to the Federal Inspector on its labor relations procedures, and indicate the proposed means to address and resolve disputes arising under collective bargaining agreements.

8. In entering into contracts with execution contractors, the successful applicant shall seek to incorporate techniques for resolving disputes arising under such contracts without recourse to litigation.

Quality Assurance and Control Procedures

9. The successful applicant shall provide to the Federal Inspector a detailed description of quality assurance and control procedures that will be implemented prior to the start of construction. Such a description must at least include provisions for quality assurance and control procedures for environmental protection, corrosion, pipeline and compressor-station

welds, pipeline placement, equipment and other appropriate matters.

Procedures for Enforcement of Terms and Conditions

10. The successful applicant may not initiate activity on any aspect of the pipeline until authorization to proceed with construction, including site-specific terms and conditions for that aspect of the pipeline, has been issued and procedures for enforcement of terms and conditions have been established by the appropriate Federal officers.

Minority Business Enterprise Participation

11. The successful applicant shall develop and submit to the Federal Inspector for approval a plan for taking affirmative action to ensure that no person shall on the grounds of race, creed, color, national origin or sex be excluded from receiving or participating in contracts for management, engineering design or construction activity. The successful applicant shall require each of his contractors and subcontractors having contracts valued at \$150,000 or more to develop similar plans providing the assurances specified in the preceding sentence.

II. Safety and Design

1. The successful applicant shall construct, operate, maintain and terminate the pipeline in accordance with Federal gas pipeline safety regulations. The applicant shall ensure that construction and operating specifications are in accordance with good engineering practice, both to maintain the safety and the integrity of the pipeline and to protect the health and safety of project personnel and the general public.
2. The successful applicant may not begin construction of any pipeline segment until the Federal Inspector has approved the design of that segment, including technical construction specifications, having had sufficient time to review the design.
3. The successful applicant shall establish a procedure for briefing the Federal Inspector, or his designated representative, on a regular basis concerning the status of the project during the design, construction, testing and start-up phases.

4. The successful applicant shall establish a procedure to ensure access to all project facilities by the Federal Inspector, or his designated representative, in the performance of official duties.

5. The successful applicant shall submit a plan or procedure for conducting its own inspections of project facilities during construction, to be approved by the Federal Inspector.

6. The successful applicant shall provide a seismic monitoring system, to be approved by the Federal Inspector, and shall ensure that there are adequate procedures for the safe shut-down of the project under severe seismic conditions.

III. Environment

1. The successful applicant shall construct, operate, maintain and terminate the pipeline with maximum concern for the protection of environmental values. A set of stipulations containing the general standards of environmental and construction performance, and the procedures for the

submission and approval of construction plans and environmental safeguards will be developed by the concerned government agencies and must be accepted by the applicant as a condition of his right to proceed over public lands. Additional "site-specific" terms and conditions will be incorporated in authorizations to proceed with construction issued by the appropriate Federal agency, into particular certificates, rights-of-way, permits and other authorizations to protect and enhance environmental values during the design, construction and operation of the pipeline. These additional "site specific" terms and conditions will be issued as appropriate to minimize disturbance from construction and operation of the pipeline to rivers and other water bodies and adjacent land and vegetation; to protect wildlife and endangered species and maintain forest, agricultural and other resource productivity; to control the risks of pipeline ruptures, leaks and hazards; to maintain air and water quality values; to make provision for control and disposal of sewage, garbage, wastes

and toxic substances; and take other measures necessary for protection of the environment during the design, construction and operation of the pipeline.

2. The successful applicant shall prepare a plan of operations which integrates environmental protection with the proposed schedule of construction and operations, the proposed supervisory and technical staffing, the proposed quality control programs, and the proposed quality assurance programs. In preparation and implementation of this plan, the successful applicant shall provide for timely integration of environmental mitigation and restoration practices with the activity which creates the need for the restoration or mitigation.

3. The successful applicant shall develop and submit to the Federal Inspector an effective plan for implementation of specific environmental safeguards through an educational program for field personnel prior to and during construction, operation, maintenance and termination of the pipeline.

4. The successful applicant shall establish an effective pipeline-performance monitoring system of inspection and instrumentation to insure performance in keeping with environmental concerns.

IV. Finance

1. The successful applicant shall provide for private financing of the project, and shall make the final arrangement for all debt and equity financing prior to the initiation of construction.

2. If the direct capital cost estimates excluding interest during construction for the overall project in 1975 constant dollars filed with the FPC immediately prior to certification, adjusted to reflect design changes to increase capacity that result from the Agreement on Principle between the United States and Canada, materially and unreasonably exceed the comparable capital cost estimates filed by Alcan with the Federal Power Commission on March 8, 1977, Section 6, page 2, the FPC may not issue a certificate for the project. If these final capital cost estimates are not excessive under the above standard, the FPC may use these final estimates for the U.S.

segments as the basis for fixing a variable rate of return on equity that will reward the applicant for project completion under budgeted cost and penalize the applicant for project completion above budgeted cost. The variable return shall be set to provide substantial incentives to construct the project without incurring overruns. These final capital cost estimates need not be the design-cost estimates based on the system design which must subsequently be submitted to the Federal Inspector. The applicant shall, however, submit to the FPC for approval on a timely basis all components of construction work in progress.

3. Neither the successful applicant nor any purchaser of Alaska gas for transportation through the system of the successful applicant shall be allowed to make use of any tariff by which or any other agreement by which the purchaser or ultimate consumer of Prudhoe Bay natural gas is compelled to pay a fee, surcharge, or other payment in relation to the Alaska

natural gas transportation system at any time prior to completion and commissioning of operation of the system.

4. The Alcan Pipeline Company, or its successor, and the Northern Border Pipeline, or its successor, shall be publicly held corporations or general or limited partnerships, open to ownership participation by all persons without discrimination, except producers of Alaskan natural gas.

V. Antitrust

1. The successful applicant shall exclude and prohibit producers of significant amounts of Alaska gas, or their subsidiaries and affiliates, from participating in the ownership of the Alaska natural gas transportation system, except that such producers may provide guarantees for project debt. The aforesaid producers of Alaska gas may not be equity members of the sponsoring consortium, have any voting power in the project, have any role in the management or operations of the project, have any continuing financial obligation in relation to debt guarantees associated

with initial project financing after the project is completed and the tariff is put into effect, or impose conditions on the guarantees of project debt permitted above which may give rise to competitive abuse, including power to veto pro-competitive policies.

2. All agreements for the sale of Alaska gas made between the aforesaid producers and purchasers who are shippers through the Alaska natural gas transportation system shall be fully disclosed to the Federal Power Commission, and all collateral agreements made between the same parties with respect to the sale of Alaska gas shall also be fully disclosed. All contracts for sale of Alaska gas, for all collateral agreements to these contracts, shall be submitted for approval by the Federal Power Commission.

VI. Certification of Facilities

1. Prior to the issuance of a certificate of public convenience and necessity to Northern Border Pipeline or to Pacific Gas Transmission Company, the Secretary of Energy shall certify to the Federal Power Commission whether there

has been any material change in the facts regarding future potential gas supplies for the East or West since the date of this Decision that would warrant certification of such facilities at a different rated capacity than authorized herein. If the Secretary certifies that there has been a material change in the facts, he shall instead certify to the Commission the capacity at which he has determined a certificate of public convenience and necessity should be issued and the reasons therefor, which capacity shall be determined in a manner that is as consistent as possible with the reasons for the initial authorization, as set forth in the Report submitted to the Congress pursuant to Section 7(b) of the Alaska Natural Gas Transportation Act, Public Law 94-586. The certificate issued by the FPC shall be consistent with the Secretary's determination.

Enforcement

To enforce the terms and conditions proposed above, and to carry out the duties of the office assigned and set forth by section 7(a)(5)(A)-(E) of ANGTA, an appropriate and qualified individual shall be appointed by the President

to serve as the Federal Inspector, with the advice and consent of the Senate. Upon approval of the Presidential designation of an Alaska natural gas transportation system, the Federal Inspector shall:

(A) establish a joint surveillance and monitoring agreement, approved by the President, with the State of Alaska similar to that in effect during construction of the trans-Alaska oil pipeline to monitor the construction of the approved transportation system within the State of Alaska;

(B) monitor compliance with applicable laws and the terms and conditions of any applicable certificate, rights-of-way, permit, lease, or other authorization issued or granted;

(C) monitor actions taken to assure timely completion of construction schedules and the achievement of quality of construction, cost control, safety, and environmental protection objectives and the results obtained therefrom;

(D) have the power to compel, by subpoena if necessary, submission of such information as he deems necessary to carry out his responsibilities; and

(E) keep the President and the Congress currently informed on any significant departures from compliance and issue quarterly reports to the President and the Congress concerning existing or potential failures to meet construction schedules or other factors which may delay the construction and initial operation of the system and the extent to which quality of construction, cost control, safety and environmental protection objectives have been achieved.

In addition to these duties and responsibilities, the President will submit to Congress, upon approval of the Presidential decision, a limited executive reorganization plan to transfer to the Federal Inspector field-level

supervisory authority over enforcement of terms and conditions from those Federal agencies having statutory responsibilities over various aspects of an Alaska natural gas transportation system. The respective Federal agencies would retain their existing statutory authority pursuant to section 9(a) of ANGTA, to issue on an expedited basis the necessary certificates, permits, rights-of-way and other authorizations, and to prescribe any appropriate terms and conditions that are permissible under present law. The Agency Authorized Officers would directly represent the statutory authority of the respective Federal agencies in the field on all matters pertaining to construction of the pipeline. However, the Federal Inspector would have the necessary field-level supervisory authority to overrule the enforcement action of an Agency Authorized Officer, whenever the Federal Inspector determined that such a decision was warranted.

The President's supervision of the Federal Inspector will be carried out by an Executive Policy Board. The Board would be made up of the Secretaries of the Interior, Energy, Transportation, the Administrator of the Environmental Protection Agency, and the Chief of the Army Corps of Engineers, or their Deputies (or senior officers who have

been delegated authority over gas pipeline matters), as well as the Federal Inspector, who is the non-voting Chairman of the Board. The Board will provide policy guidance to the Federal Inspector, and act as an appellate body to resolve differences among the agencies and the Federal Inspector, including differences that may arise when the Federal Inspector overrules an enforcement action of an Agency Authorized Officer. The Board shall expeditiously resolve any such appeal with a limited period of time that shall be prescribed. The President will authorize by Executive Order the creation of the Executive Policy Board pursuant to his power under Section 301 of Title 3, and will delegate the necessary authority to the Board to carry out its functions. The Board shall be paramount for policy-making purposes on all matters pertaining to construction of an Alaskan natural gas transportation system; the Federal Inspector shall shall be the agent or conduit of the Board in such matters, and shall also have the necessary supervisory power over field level decisions.

SECTION 6 - PRICING OF ALASKA GAS

Final financing for an Alaska natural gas transportation project cannot be arranged until the producer-owners of the Prudhoe Bay gas execute sales contracts. Without such contracts, no gas can be transported, and financing consequently would be unobtainable. Producers cannot be expected to negotiate sales contracts until a price has been established with a reasonable degree of certainty. If this project is to proceed expeditiously, the field price of the gas should be established as soon as possible.

Because no contracts for gas sales in interstate commerce have been concluded and submitted to the FPC for approval, the FPC has not, to date, attempted to determine the costs of providing the gas in order to establish what might be a just and reasonable (cost-based) wellhead price. The FPC, in fact, has excluded the Alaska gas from its national rate proceedings; Alaska costs and related reserve data have been excluded from all statistics underlying FPC rate determinations.

Alaska gas is produced in association with oil; therefore, it is impossible to determine precisely the costs of finding, developing and producing only the gas. Cost allocation and, therefore, cost-based pricing is

somewhat arbitrary. Because of the difficult and arbitrary nature of the allocation problem, the FPC in recent years has priced gas on the basis of the cost of only non-associated gas in each producing area, and then allowed the same price to be paid for associated gas produced in that area as well. Were the FPC to initiate a price proceeding under the Natural Gas Act, it is expected that its procedures and subsequent litigation over cost allocation and other matters would likely exceed a period of 18 months.

The Administration's proposed National Energy Act is before the Congress. That Act provides a basis for moving from cost-based pricing to commodity-value pricing. That transition is essential to restoring the balance between natural gas supply and demand. Under the gas pricing provisions in the National Energy Plan, Alaska gas would be classified as "old gas under a new contract" subject to a \$1.45 per mcf ceiling price.

If, on the other hand, proposals to deregulate natural gas prevail, serious uncertainties and delays concerning the development of any Alaskan natural gas transportation

project could result. If producers are inclined to insist on prices of \$2.00 per mcf or higher, questions concerning the saleability of the gas and the financeability of the project will arise. Such price levels could result in an additional \$20 billion in consumer charges, as well as the added costs of any delays in project construction.

This decision, therefore, calls for enactment of a gas pricing approach similar to that contained in the National Energy Plan. That approach also provides a mechanism for allocating the cost of more expensive supplies to lower-priority users, rather than the residential and commercial users who have less capacity to convert to other fuels. The gas pricing policies which are part of the National Energy Plan are fair and equitable, and should apply to both the production and sale of Alaska gas.