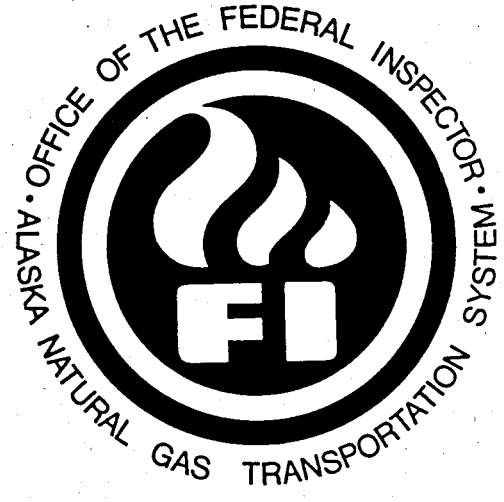
REPORT TO THE

PRESIDENT

ON THE

CONSTRUCTION OF THE ALASKA NATURAL GAS TRANSPORTATION SYSTEM



Office of the Federal Inspector

Alaska Natural Gas Transportation System

FA-1
1000 Independence Avenue, SW
Washington, DC 20585

January 14, 1992

Dear Mr. President:

I am privileged to submit to you the enclosed *Report on the Construction of the Alaska Natural Gas Transportation System.*

As fifteen years have passed since the Congress enacted the Alaska Natural Gas Transportation Act of 1976 (P.L. 94-586), a comprehensive and independent review of the continued special legal status of the Alaska Natural Gas Transportation System and its independent Executive Branch authority, the Office of the Federal Inspector, was overdue. While it may seem unusual for one of your appointees to recommend dissolution of the office and the authorities you have selected them to administer, it is clear that times have changed and the assumptions underlying the creation of the Alaska Natural Gas Transportation System and the Office of the Federal Inspector have proven, in hindsight, to be absolutely incorrect.

I am confident that this Report includes a set of recommendations which will improve the efficiency of government, lower its cost to taxpayers, and contribute to the efficiency of natural gas markets.

Sincerely,

Michael J. Bayer
Federal Inspector

The President of the United States
The White House
Washington, D.C. 20500

REPORT TO THE PRESIDENT

ON THE CONSTRUCTION

OF THE ALASKA NATURAL GAS TRANSPORTATION SYSTEM

I. INTRODUCTION

Shortly after my confirmation by the United States Senate, I embarked on a series of introductory meetings with the organizations and individuals that are concerned with the Alaska natural gas resource, including the project sponsors of the Alaska Natural Gas Transportation System ("ANGTS") and the Trans-Alaska Gas System ("TAGS"), the North Slope producers, industry trade associations, and involved United States Government and State of Alaska Agencies. I also met with my Canadian counterpart, Donald Campbell, the Commissioner of the Northern Pipeline Agency (who is also Canada's Deputy Minister for International Trade).

I wanted to determine whether the Office of the Federal Inspector ("OFI") and ANGTS served the interests of the American public. Did the legal construct developed in the 1970's stand up to scrutiny in 1991? After all, ANGTS is, in essence, the product of a process by which the government picked winners and losers. The U.S. government in 1977 decided on the exclusive routing of Alaska natural gas to the Lower 48 States. ANGTS, and only ANGTS, was permitted -- with the OFI charged with protecting this particular project and only this project. The scale of this "pick" is quite staggering -- ANGTS was often described as the largest single construction project in U.S. history. Perhaps most revealing is that this "pick," and its hostility to other market-driven alternatives, was based on assumptions concerning U.S., Canadian and global gas market predictions that have turned out to not only been wrong, but virtually opposite from what has transpired.[1]

It became clear to me early on that an evaluation of the continuing need for the special legal entity called ANGTS and its special purpose government agency, the OFI, was long overdue. As I reported to the House Committee on Appropriations, Subcommittee on Interior and Related Agencies on April 30, 1991:

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1 Although this Report includes views about the future of those same gas markets, its recommendations do not depend on whether any particular prediction about the future is right or wrong. Indeed, whatever the future may hold, these recommendations are grounded in the assumption that the markets should be left to pick the future winners and losers, without the government attempting to chart a course for those markets.

First and foremost, we must have a clear idea of the facts - - and the facts have changed a lot since 1977 when Congress and the President planned for ANGTS.

o Expectations about the supply and pricing of crude oil and natural gas never materialized. There is more natural gas in the lower 48 and in Canada then anyone predicted. And compared to the price predictions of the late 1970's and early 1980's, crude oil is a bargain. This has seriously affected the economics of ANGTS.

o In 1977, there was no TAGS project. Since that time President Reagan issued a finding permitting the exportation of Alaskan natural gas, and the TAGS project won approval from the DOE to export 16.5 Tcf of North Slope gas as LNG. Although the DOE order is being challenged in court, TAGS itself challenges our assumptions about the marketability of Alaskan gas, and supplies available to the ANGTS project.

o In 1977, the Canadian Government anticipated that Mackenzie Delta gas would flow south through the so-called "Dempster Lateral" and hook-up with the ANGTS project in Whitehorse, in the Yukon Territory. Now serious attention is being paid to a direct pipeline connection between the Delta and an extension of the Prebuild near Boundary Lake. The Mackenzie Delta pipeline would render the Dempster Lateral moot -- which pipeline is constructed depends on whether Mackenzie Delta gas or Alaskan gas is brought to market first.[2]

With these observations in hand and based on my continued discussions with the interested parties, I began in July to gather the facts necessary to formulate recommendations regarding the future of the ANGTS and the OFI. This Report sets out those recommendations. It begins with a description of the history of the ANGTS project and this Office, the present state of gas markets, the likelihood of bringing Alaskan gas to market, and finally, a set of recommended courses of action with a description of their impact.

Implementation of these recommendations will require the input from a number of Executive Branch agencies and departments and the State of Alaska, consultations with the Canadian government, the project sponsors, the producers and other affected private sector interests, and ultimately the development of legislative recommendations in coordination with the Congress. Crafting appropriate implementing legislation and Executive Branch actions that take into account the variety of affected interests will not be a simple or quick process. However, in the end, the result should be an improvement -

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2 Statement of Michael Bayer, Before U.S. House of Representatives, Committee on Appropriations, Subcommittee on Interior and Related Agencies, April 30, 1991, at pg. 2.

- with less government involvement, greater reliance on market forces, with the Nation better served as a consequence.

II. BACKGROUND AND HISTORY

In the 1970's, the Nation faced severe energy shortages, oil boycotts and price shocks. Oil prices were predicted to rise as high as $200/barrel. Wellhead prices of natural gas were as high as $13.00/Mcf (compared to today's spot prices hovering near $1/Mcf) as the result of predicted imminent shortages. As one response, the President and Congress focused on the development of the abundant oil and natural gas reserves in the Prudhoe Bay area on the Alaskan Arctic Coast. The first step was the enactment of legislation to authorize the construction of the Trans-Alaska Pipeline System ("TAPS"), which transports daily approximately 1.8 million barrels of North Slope crude oil to the port of Valdez for shipment to California and other Lower 48 markets.

Construction of TAPS was highly controversial, marred by contentious regulatory overlaps among the various federal agencies, delays and substantial cost overruns. In 1976, when Congress and the President were considering development of the Prudhoe Bay natural gas resource, a conscious effort was made to avoid the problems that had plagued TAPS. As a result, Congress and the President devised the Alaska Natural Gas Transportation Act ("ANGTA"), which established a mechanism for the President to designate a route for a natural gas pipeline to bring Alaskan natural gas to the Lower 48 States, and create a special office, the Office of the Federal Inspector, to coordinate regulatory reviews and monitor construction.

In 1977, President Carter designated the route and selected the project sponsors for construction of the ANGTS, running 4,787 miles from Prudhoe Bay, south to near Fairbanks, and then to the southeast along the route of the Alaska-Canadian (Alcan) highway to near Calgary, Alberta, where it would split into two legs, one continuing to California in the West, and the other to Illinois in the Midwest. *See map attached at Appendix 1.* This mammoth project, with some initial cost estimates of $26 billion, would be financed entirely with private funds.

The ANGTS project was divided among a number of project sponsors who were granted exclusive franchises for their respective segments. An American-led consortium, the Alaska Northwest Natural Gas Transportation Company (the Williams Companies is the parent of the managing partner) is responsible for the 731 mile Alaskan Leg; the Canadian sponsor, Foothills Pipeline Company, Ltd, is a subsidiary of Nova and Westcoast Transmission Company, Ltd., and is responsible for 2028 miles of pipeline in Canada; an American-led consortium, the Northern Border Pipeline Company (Enron is the parent of the managing partner) is responsible for the U.S. portion of the Eastern Leg (1117 miles); and the Pacific Gas Transmission Company, a wholly-owned subsidiary of Pacific Gas and Electric Company, is responsible for the U.S. portion of the Western Leg (911 miles).

The President's designation of the ANGTS route and its construction/operation entities was closely coordinated with the government of Canada, and was issued following

adoption of an Agreement Between The United States And Canada On Principles Applicable To A Northern Natural Gas Pipeline.[3] Likewise, Canada enacted the Northern Pipeline Act, which is similar to ANGTA and which created the Northern Pipeline Agency ("NPA"). The NPA is the OFI counterpart in Canada, with responsibility for the more than 2,000 miles of ANGTS to be constructed in Canada.

The Office of the Federal Inspector (OFI) was established by Reorganization Plan No. 1 of 1979, and Executive Order 12142.[4] The Federal Inspector, who is appointed by the President and confirmed by the U.S. Senate, is primarily responsible for the coordination of federal permitting (essentially acting as an umbrella over the diverse agencies responsible for permitting, e.g., EPA, the Bureau of Land Management within the Department of the Interior and the Department of Transportation), enforcement of permit conditions, and facilitation and oversight of the construction and initial operation of the U.S. portions of ANGTS.[5] By law the OFI would cease to exist one year after completion of the system.

The ANGTS sponsors, in order to facilitate financing for what would be the largest privately financed construction project in U.S. history, sought to build the project in two phases. In Phase I, or the "Prebuild," 1,512 miles would be built (roughly 1/3 the total), bringing Canadian gas (until the pipeline could be completed to Alaska) from Alberta to Stanfield, Oregon in the Western Leg, and to Ventura, Iowa in the Eastern Leg. In Phase II, the system would be completed with 3225 miles built to connect the Phase I sections to the North Slope and extend the Phase I legs to California and Illinois. In 1980, the Canadian government expressed its reluctance to proceed with Phase I construction absent assurances that the project could be financed and that the United States remained committed to the project completion.[6] President Carter and the Congress expressly

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3 September 20, 1977.

4 The Plan and the Executive Order transferred to OFI certain authorities of the Departments of the Interior, Transportation, Agriculture, Treasury, Labor, and Energy, the Environmental Protection Agency, the Army Corp of Engineers, and the Federal Energy Regulatory Commission.

5 Thus far, there have been five Federal Inspectors: John Rhett, July 13, 1979 to December 27, 1985; Daniel Boggs, December 28, 1985 to March 26, 1986; Theodore Garrish, March 27, 1986 to February 21, 1989; Melvin Hurwitz (acting), February 22, 1989 to October 29, 1990; Michael Bayer, October 30, 1990 to the present.

6 In its decision approving ANGTS in 1977, Canada's National Energy Board ("NEB"), in noting the possibility of pre-building part of the Canadian portion of ANGTS, said that it would "require an 'ironclad' guarantee the gas would be replaced at a later date by Alaska gas dropped off in Canada, or alternatively by curtailing existing export commitments in later years to an equivalent extent." NEB Decision, Vol I. at 1-162.

reiterated their commitment to the project[7], and the FERC, through various rate decisions, assured a minimum revenue stream deemed essential to financing the Prebuild.[8]

In 1981, the sponsors began having difficulty attracting the needed financing and urged that relief from certain regulatory impediments was necessary for the project to succeed. Accordingly, Congress and the new Reagan Administration approved a package of waivers to the original conditions that had been imposed by President Carter's 1977 decision.[9] Among other things, this waiver package: (1) permitted the producers of the North Slope gas (ARCO, Exxon, and BP) to obtain an equity interest in the pipeline; (ii) altered the project's description to include the gas conditioning plant to be built on the North Slope as part of the "transportation system," thus transferring the burden of its cost from producers to consumers; (iii) removed the prohibition against "pre-billing," thereby permitting costs to be passed to consumers as each of the component parts of ANGTS was completed, if by a date certain the entire ANGTS project were not completed;[10] and (iv) barred FERC from later changing the tariffs in a manner that would impair recovery of operating expenses, actual taxes and debt service.

By 1982, construction of Phase I had been completed. This approximately 1,500 mile segment, shaped like an inverted Y, continues to deliver large volumes of Canadian gas from near Calgary to Oregon in the Western Leg and to Iowa in the Eastern Leg. *See map at Appendix 2.* Phase I was built on time and under budget, and the Office of the Federal Inspector had proven itself useful in minimizing regulatory delays and in monitoring construction costs.

Almost contemporaneous with the completion of work on Phase I, the United States' and Canada's energy outlook changed substantially. Natural gas discoveries in Canada and in the Lower 48 States ballooned, and world oil prices moderated. The dire predictions of the 1970's that oil prices would reach $200 per barrel and that natural gas would be in short supply proved remarkably inaccurate.

With this changed natural gas market, the ANGTS sponsors announced in April 1982 that the project would be delayed substantially. In response, OFI curtailed its operations, closed its field offices, reduced its staff and lowered its administrative costs. ANGTS remained on hold for the next several years, notwithstanding periodic predictions that improving market conditions would soon prompt construction to recommence. At

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7 Letter from President Carter to Prime Minister Trudeau (July 18, 1980); S. Con Res. 104, 96th Cong., 2d Sess., 126 Cong. Rec. H. 5942 (daily ed. July 1, 1980).

8 Notwithstanding the diminished prospects for completion of ANGTS, FERC has kept that commitment. Nothing in this Report indicates whether or how FERC should re-examine the Prebuild rate structure.

9 Section 8(g) of ANGTA expressly authorized the President to seek such waivers to "permit expeditious construction and initial operation" of ANGTS.

Congressional hearings and elsewhere, the project's restart was the subject of repeated optimistic predictions.[11]

Today, Northern Border and Pacific Gas Transmission are in the process of securing final regulatory approvals for proposed expansions/extensions of the Eastern and Western legs, respectively, of Phase I. Although these projects would largely complete ANGTS construction in the Lower 48 States, they are designed to provide additional transportation for Canadian gas, not Alaskan natural gas. Their applications were not filed under ANGTA, but instead have been processed by the FERC under the Natural Gas Act, much as any other pipeline application.

Since 1985, activity to bring Alaska gas to U.S. markets has largely been on hold, with little activity on the Alaskan leg, other than a recalculation by the sponsors (downward) of the proposed cost of a completed ANGTS. When originally conceived, the projected cost of the project was estimated to cost upwards of $26 billion. *See chart at Appendix 3.* However, as detailed below, even at a reduced capital estimate of $14.6 billion (expressed in 1988 dollars), the project has remained unfinished given gas market conditions, and the in-field use for the gas on the North Slope.

III. CURRENT ISSUES

A. The Prudhoe Bay Producers Have Long-Term Plans To Use The Natural Gas To Enhance Oil Recovery.

Exxon, BP and ARCO control the majority of Prudhoe Bay oil and gas reserves. The ownership shares of the Prudhoe Bay natural gas are: ARCO: 32%, Exxon: 32%; BP: 21%; the State of Alaska Royalty Interest: 12.5%; and other minor owners approximately 2%. BP and Arco operate the field -- roughly splitting it down the middle into Eastern (ARCO) and Western (BP) operating areas.

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10 The rationales for the "pre-billing" provision were (i) to reassure the Canadians that they should proceed with the Prebuild and (ii) to encourage lenders.

11 For example, in 1981, Vernon T. Jones, President and Chief Executive Officer of Northwest Energy Co., on behalf of the ANGTS sponsors told Congress that his best estimate was that construction would begin in 1985-1986, with a 1990-1991 start-up. Marketing Alternatives for Alaska North Slope Natural Gas, S. Hrg. 743, 98th Cong., 1st Sess. 127 (November 16, 1983). Exxon, one of the three North Slope producers, had a similar estimate. Id. at 217, 225 (Testimony of Sidney J. Russo, Senior Vice President, Exxon).

Currently, the natural gas, which is lifted with the oil at Prudhoe Bay, is reinjected into the field. The reinjected gas increases both the ultimate hydrocarbon liquid recovery from the reservoir and the rate at which those liquids can be produced. The reinjected gas provides substantial pressure support to the reservoir, thereby enhancing the energy available to move fluids to the producing wells in the field. Additionally, the reinjected gas strips immobile, or trapped, oil from the gas cap as it is cycled from the injection wells. This immobile oil would not be produced without reinjection and cycling the gas.

Each day the amount of natural gas being cycled through the field is 5 billion cubic feet, equivalent to roughly 40% of the daily residential use of all U.S. households. With the installation next season of a second massive gas handling plant (known as GHX-2), this number will increase to more than 7 billion cubic feet daily, or roughly 60% of the daily residential use of U.S. households. A July 23, 1991 letter from Lodwrick M. Cook, the Chairman of ARCO, to the Secretary of Energy addressed this issue: "If major gas sales of two billion cubic feet per day were to begin late in this decade, the loss of recoverable crude oil would be about one billion barrels. If such sales were delayed until 2005, the loss still would be about one half billion barrels." He went on to say that it is "...critically important that we continue recycling Prudhoe Bay gas for at least two decades." *See Appendix 4.*

B. There Is Far More Natural Gas In Canada Readily Available to U.S. Markets Than Previously Thought.

As discussed above, during the creation of the ANGTS, the Canadian Government was very concerned that construction of a large pipeline through its western provinces would ultimately be utilized to transport scarce Canadian gas resources out of the country. In the intervening years major discoveries in Canada have moderated this concern. According to the Canadian Petroleum Association, established gas reserves in Canada were 79.2 trillion cubic feet (Tcf) at the end of 1977. At the end of 1990, even after years of massive exports to the United States, Canadian reserves have increased to 96.7 Tcf. In other words, gas is being added to reserves at a pace that far outstrips demand. And most importantly, gas finds in Alberta and British Columbia account for most of these additions. The Arctic regions hold no less promise.

The Mackenzie Delta, located about 250 miles east of Prudhoe Bay in Canada's Arctic Coast at the Yukon and Northwest Territories border, contains 11.7 Tcf of proven natural gas reserves (on and off-shore), and may contain as much as 72 Tcf of gas.[12] In March, 1991, a consortium of six companies was formed to develop a business plan and a route for the construction of a pipeline down the Mackenzie River Valley. *See route map*

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12 Squarely in the middle between Alaskan gas in Prudhoe Bay and Canadian gas in the Mackenzie Delta are the Arctic National Wildlife Refuge (ANWR) Wilderness Area and the Canadian North Yukon National Park (NYNP). *See map at Appendix 6.* In the late 1970's one route considered for the ANGTS project would have directly connected these two fields, and then transported the gas down the Mackenzie

at Appendix 5. The construction schedule for this "Arctic" project remain uncertain, particularly given the large amount of gas reserves in southern Canada. However, the Mackenzie River Valley (which runs south from the Delta) is well-suited as a pipeline corridor, and is a fairly direct route to Alberta and existing pipelines, including the ANGTS Prebuild. This route could be built for a fraction of the cost of ANGTS, further undermining its future. Although the Mackenzie Delta project may remain far off, the Canadian government has been aggressively clearing native claims so that if and when the project is commercially viable, it may proceed with minimum regulatory delay.[13]

As the Alberta gas fields are depleted and Canada seeks to maintain its gas flow to the U.S., it appears more likely that the Mackenzie Delta project will be undertaken and precede the ANGTS project. As a result, the economics of ANGTS will further deteriorate. Not only will the market in the Lower 48 States have additional supplies of Canadian gas available with lower transportation costs than Alaskan gas, but the Mackenzie Delta project would consume large amounts of the scarce capital that might otherwise be available for an Alaska project.

C. The Marketplace Will Not Support ANGTS In The Foreseeable Future.

Completion of ANGTS and delivery of North Slope natural gas to Lower 48 markets will remain postponed indefinitely. Although the President's National Energy Strategy (NES) champions the increased use of natural gas (reduced domestic dependence on foreign sources of energy and highly desirable environmental advantages), long term increases in demand will be matched by corresponding increases in both Lower 48 reserves and Canadian reserves which will combine to maintain downward pressure on wellhead natural gas prices.

A 1990 Energy Information Agency report concluded that domestic production would increase through the year 2000 and that Canadian sources of gas will continue to increase through the period.[14] Even if the National Energy Strategy were fully implemented, the Department of Energy only anticipates U.S. demand increasing from 18.3 Tcf in 1991 to 24.2 Tcf in the year 2000 -- approximately 5% (1 Tcf) by the year 2000 over what it would otherwise be without implementation of the NES policies.

River Valley to Alberta. In 1977, the NEB expressly rejected this Arctic gas proposal, then known as the CAGPL Project (Canadian Arctic Gas Pipeline Ltd).

13 Given the Canadian objections to the CAGPL project, and given the strong Canadian disincentives to participating in a project that would compete with a Mackenzie Delta project, the prospects for a modification to the ANGTS route that would link with a Mackenzie Delta project are dim. And, for the reasons noted above, if a Mackenzie Delta project were launched, there would be no Canadian interest to complete the nearly 2,000 miles of pipeline and related facilities needed to connect the Alaskan leg of ANGTS. Finally, the rationale for the Dempster Lateral would disappear.

Perhaps more significantly, the NES projects that after the year 2000 U.S. demand for natural gas to level off and ultimately decline as the year 2030 is approached.

Thus, evolving price competition in natural gas markets, and ample Canadian gas supplies described above, which are far closer to U.S. markets will likely fulfill demand and keep Lower 48 gas prices at levels below that necessary to support the roughly $3/Mcf premium attributable to the cost of transporting that gas nearly 5000 miles from Alaska. Therefore, it is simply not reasonable to expect Lower 48 demand to bear the transportation cost of Alaskan gas in the next quarter century.

D. ANGTS Faces Competition For North Slope Gas From Another Natural Gas Project.

Yukon Pacific Corporation, a CSX subsidiary in which until recently Alaska Governor Walter Hickel owned a significant interest, has sought to export annually 14 million metric tons of North Slope gas to Japan, Korea and Taiwan as liquefied natural gas (LNG)[15]. This project known as the Trans-Alaska Gas System ("TAGS") was in 1991 projected to cost approximately $13.5 billion.

An initial barrier to TAGS was Section 12 of ANGTA, which barred the exportation of North Slope natural gas absent a Presidential finding that such exportation would not diminish the total quantity or quality nor increase the total price of energy available to the U.S. President Reagan issued such a finding in 1988, and Yukon Pacific subsequently secured from the Department of Energy a permit to export 16.5 Tcf of natural gas over a 25-year period. This permit is currently the subject of a federal lawsuit brought by the ANGTS sponsors.

The TAGS and ANGTS projects compete in a number of different ways, even though one is an export project and the other seeks to deliver gas to U.S. consumers. First, both projects seek to tap the same Prudhoe Bay gas reserves. Although there has been a great deal of debate over whether there is enough natural gas for both TAGS and ANGTS, that question is only secondarily important.

Any diminution of the supply to be transported (or readily available to be transported) reduces the economic attractiveness of each project. In spite of President

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14 Annual Energy Outlook 1990, Energy Information Administration, at pg. 25.

15 For 20 years a relatively modest amount of natural gas has been exported to Japan as LNG. This

Reagan's 1988 finding, which only addressed the issue of domestic demand for the gas, it is extremely difficult to envision how the two could co-exist.

It seems clear that whichever project raises the funds first will be the only project to ever be built. It is unlikely that financing could be found without creditor assurances of a virtual monopoly on the gas. Both projects would compete for massive amounts of capital, an increasingly scarce commodity, estimated at approximately $30 billion dollars for both projects. It is unlikely that there exists sufficient amounts of capital for two projects of this magnitude, cost and risk.

Competition aside, the construction schedule for the TAGS project remains uncertain for many of the same reasons applicable to ANGTS. Given the field use for Prudhoe Bay gas (for reinjection and stripping of liquids) and the producers' large investment in gas handling facilities (already made and only partly amortized), any gas sale would have to be at firm and premium prices. Since this project would be a massive new LNG project, it would fall into direct competition with a number of Asian and Pacific suppliers, who are either closer in proximity to Taiwan, Korea and Japan, or have lower cost. All of these projects with largely amortized physical plants are pricing their gas at the margin, which makes new project entry very difficult.[16]

In addition, the proposed Japanese-Russian gas joint venture at Sakhalin Island would further push out in time any prospects for TAGS, and would transfer the traditional balance of power in the Pacific Rim gas markets. The Sakhalin gas, delivered to Japan by pipe, would be significantly cheaper than LNG, would be controlled (through ownership) by the Japanese, and would shift control of prices from existing Pacific Rim LNG producers who will only be able to maintain revenues by expanding volumes, thus displacing any new supply entrants to the Pacific Rim markets. This would only further extend the time TAGS might be built. Notwithstanding these uncertainties, the TAGS sponsors and others continue to champion this project as an alternative to ANGTS.

E. The ANGTS Special Legal Status is an Anachronism

The creation of ANGTS and OFI represented a U.S. government decision to designate a specific route for the transportation of Alaskan gas and to create a special purpose agency dedicated to oversee its construction and initial operation. Of course, it was then expected that ANGTS would be completed in the 1980's. If ANGTS is unlikely to be completed for another 20 years (if ever), should we maintain a government dictated routing and special regulatory structure? The answer appears self-evidently, no, for several reasons.

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16 Because the U.S. with its perceived security would be the source of supply in a TAGS LNG sale, a higher sales cost, relative to other sources, may be acceptable to Pacific Rim markets.

The U.S. government in essence predicted the immediate need for and completion of a pipeline. However reasonable this may have appeared in the 1970's, we now know that prediction was wrong. Nonetheless, we have maintained all the legal structures as if that prediction was correct. This project is perhaps an object lesson in the dangers of government choices that become engraved in stone, impervious to market developments and a changing world. We should instead let the market dictate if, when and how Alaskan gas will be utilized. If, in the year 2010, it becomes economically feasible to bring Alaska gas to U.S. market, why should its delivery be required to follow a route designated in 1977? Moreover, the designation of the route and the sponsors for the various legs grants them a monopoly in perpetuity over the delivery system based on submissions made in the 1970's, when the economic and regulatory factors were entirely different. The effect of continuing the ANGTS legal fiction is for government to further and unnecessarily intrude in the markets' decision about the viability of a transportation system to deliver Alaskan gas to market.

OFI was established to provide regulatory expedition and to oversee construction of the ANGTS system. By all accounts, OFI, with a staff of nearly 150, performed well during the construction of Phase I of ANGTS. Through the use of designated agency officials from other government regulatory agencies and close cooperation with the project sponsors and the Canadian NPA, the Eastern and Western Legs of the Phase I were completed and put into operation successfully. However, if ANGTS is unlikely to ever be built, there is no need for a single-purpose regulatory agency devoted exclusively to it -- even an office scaled back to a skeleton crew.

The regulatory environment in the United States has matured substantially since the 1970's. Notwithstanding the benefits of relying on ANGTA and OFI, the project sponsors (Pacific Gas Transmission and Northern Border) applied to extend and expand Phase I of ANGTS solely under the regulatory regime applicable to any interstate pipeline. If anything, the decision of the ANGTS sponsors intentionally to bypass OFI indicates that whatever regulatory benefits OFI had once provided are no longer needed or wanted by the very project sponsors for whose benefit OFI was created. Moreover, the remaining Phase II U.S. construction will occur almost exclusively in Alaska, where a pipeline coordination office and system already exists between Alaska and Federal authorities.

A remaining argument for OFI is its role in monitoring construction costs to avoid repetition of the TAPS cost overruns. Again, the marketplace forces that have kept ANGTS from completion will force the project sponsors to construct a pipeline at a cost that can be realistically passed on to consumers. With Lower 48 and large Canadian supplies, Alaskan gas will only be marketable in the Lower 48 if the additional costs of transportation do not render the gas uneconomic. The market and not OFI is a better mechanism to hold down construction costs.

For all the above reasons, there is little reason to maintain a special legal and regulatory structure established in the 1970's for a pipeline that certainly will not be completed before the year 2010.

IV. CONCLUSIONS

It seems implausible that the ANGTS system, as contemplated by the President and Congress in 1977 will come to pass in the next 20 years, if ever. The ANGTS system has encountered the ultimate decision of the market place -- that the forces of supply and demand will not support its construction now or in the foreseeable future. No government action, short of unwarranted further intrusion, will change those forces.

My review has yielded the following major conclusions:

1. Relatively modest increases in demand in the Lower 48 States are likely to continue, but they will likely be outstripped by the large additions to supply -- both here in the U.S. and in Canada. Quite simply, there is more gas available at lower prices than imagined just a few years ago. There is no basis to see a major change in the foreseeable future.

2. The producers of Prudhoe Bay gas have invested heavily in gas processing facilities necessary to reinject the gas for enhanced oil recovery. With the TAPS oil pipeline facing diminishing flows as Prudhoe Bay production continues to wane, the producers will be under unrelenting economic pressure not to fall below the 300,000 bbl/day necessary to keep TAPS economic. With more than $2 billion of additional recent investments in new gas handling facilities, the producers have stated that they will be constrained from selling Prudhoe Bay gas for at least the next 20 years.

3. Even if the producers were to agree to gas sales, and if gas markets could absorb the gas at sufficient price levels, and the Mackenzie Delta did not come to fruition, the TAGS project would still compete with ANGTS as the primary U.S. North Slope gas utilization project. It is unlikely that the capital markets would support two $15 billion projects that would draw on the same gas reserves.

4. The Mackenzie Delta project may very well be the first of the three competing projects to the starting gate because this project follows a natural pipeline corridor with dramatically lower cost (shorter distance, more direct route, easier access for construction and easier terrain). For the reasons noted above, that project would reduce the economic attractiveness of an Alaska gas project, and would all but eliminate any incentive for Canadian participation in ANGTS, which would then simply be a competing project that would provide little long-term benefit to Canada.

5. The foregoing demonstrates that at best ANGTS is an anachronism. Congress and the President never anticipated in 1977, or even in 1980, that the project would remain uncompleted by the mid-1980's let alone beyond the year 2010. The circumstances and assumptions about the future which provided the underpinnings for the project have shifted and changed. For the Federal Government to maintain the fiction of this project's imminent completion is itself an unwarranted continuing government interjection in the marketplace.

V. RECOMMENDATIONS[17]

- **Repeal the Alaska Natural Gas Transportation Act.**

- **Eliminate the exclusive ANGTS route to transport Alaska North Slope gas to the Lower 48.**

- **Eliminate the ANGTS project sponsors unique legal monopoly status.**

- **Withdraw the President's Decision and Report, rescind Executive Order 12142 and withdraw Reorganization Plan No. 1 of 1979.**

- **Restore to original agencies the special regulatory authorities transferred to OFI.**

- **Terminate the 1979 Agreement of Principles with Canada.**

- **Terminate the 1980 Procurement Procedures Agreement with Canada.**

- **Withdraw the Office of Federal Inspector Regulations (10 C.F.R. Ch. XV).**

- **End further Congressional appropriations for OFI.**

- **Institute normal Federal agency shutdown procedures with regard to Office of Federal Inspector.**

VI. DISCUSSION

The fundamental effect of these recommendations is to extricate the government from dictating how and by whom this pipeline will be constructed -- if it is ever constructed. It would eliminate the legal status of the ANGTS route as the exclusive route for the transportation of Alaskan gas to the Lower 48 States. Instead, market forces would be left to decide the route or routes. This will not strip the current sponsors of their

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17 These recommendations are not intended to be all-inclusive, but rather are designed to focus on the primary affected legal authorities. Implementation will require a more comprehensive examination of related authorities, such as the 1981 waiver legislation.

conditional certificates, and they would be free to construct their pipeline under otherwise applicable regulatory requirements. However, their route would no longer be the only possible route. Instead, they or any other enterprise could propose alternative routes they believe make economic sense under then-existing market conditions. The public will benefit from such market driven decisions, unencumbered by dictates from the government dating back to 1977.

The sponsors of ANGTS, as well as the producers, have invested heavily in the project, although most of the initial investment has been written off. The sponsors are designated exclusive franchisees, and this action will mean the loss of that exclusivity (however speculative its future value may be). Absent a compelling reason, which does not now exist, and which we do not anticipate, this project should compete purely as market-driven project, as would any other pipeline.

Elimination of ANGTS and the Office of the Federal Inspector would eliminate or affect substantially a number of institutions and relationships that have been created to construct and manage the project. *See U.S. and Canadian institutional outlines at Appendices 7 and 8.* This opens the matter up to debate in the U.S. Congress and lobbying by interest groups who support maintaining the project.

Future regulation of any Alaskan gas project should be the responsibility of existing agencies under their normal processes and procedures. The Office of Federal Inspector has been delegated various authorities from several federal agencies, including the Department of the Interior, the Environmental Protection Agency, and the FERC. These authorities should be redelegated back to their originating agencies rather than re-delegating them in toto to another agency head. OFI should be closed pursuant to normal agency shutdown procedures. With the closure of OFI, it is recommended that the Department of the Interior be designated as the lead agency responsible for implementation of the recommendations contained in this Report.

Canada will likely oppose elimination of ANGTS. From early on in the history of the project there is ample evidence of Canadian political concern that the U.S. might abandon its commitment to completion of ANGTS. These concerns, expressed from the onset and during consideration of the Prebuild, were that this project, if not completed, would be a pipeline whose sole function would be to transport Canadian gas to the U.S. Although Canada may have been particularly sensitive to exporting a limited natural resource during that period in which shortages were anticipated, Canadian reserves of gas have and continue to grow at remarkable rates. Exportation of gas to the U.S. is now an important element of the Canadian economy, and has the support of the Canadian government. In addition, if the project sponsors were to abandon the ANGTS project that would eliminate one source of "competition" for the Mackenzie Delta project, which, by all measures, the Canadian government continues to favor.

Nonetheless, the Canadian government has continued to express support for the ANGTS project, and concern over U.S. moves that might be seen as backing away from its commitments to the project. The primary benefit the Canadians receive from keeping the ANGTS project alive is the rate structure established for the Prebuild, which carries Canadian gas into the Lower 48. As noted earlier, in order to persuade the Canadians to

proceed with the Prebuild it was necessary to provide assurances that Canadian investment in gathering and pipeline facilities would be paid-off. At that time there was concern that absent the particular rate structure established by FERC for the Prebuild, there might be inadequate revenues to pay for the huge capital cost.[18] Notwithstanding the continuing concerns expressed about the commitments represented by the Prebuild rate structure, the gas flowing on the Prebuild has responded to market pressures -- and the pipe has remained virtually filled to capacity. Indeed both Pacific Gas Transmission on the Western Leg and Northern Border on the Eastern Leg are now seeking to expand and extend the Prebuild to bring more Canadian gas to the U.S. Yet neither filed their applications under ANGTA, thus foregoing any perceived ANGTS status benefits.

Canada implemented its side of the ANGTS arrangement by acts that parallel the institutions we created in the U.S. Parliament passed an Act like ANGTA, the Northern Pipeline Act, and created an office similar to the Office of the Federal Inspector, the Northern Pipeline Agency. Therefore, repeal by the U.S. of the panoply of ANGTS authorities and institutions would open the matter to political debate within Canada.

Termination of the 1979 Agreement with Canada would require any future sponsors of a project that crosses Canada to secure Canadian government approvals. This, however, would not fundamentally be different that the current situation for other pipeline projects that propose to transport Canadian gas to the U.S. For the reasons discussed above, the Canadian government may be less interested in a project that would transport Alaskan gas, in competition with Canadian supplies.

The 1980 Agreement with Canada governing procurement procedures required each government to monitor the procurement by the sponsors of major capital goods, i.e., mainline pipe over 36" in diameter, compressor units, and large valves and fittings. Implementation of these procedures has caused some complaint on both sides of the border.[19] More importantly, even with those procedures, this Office, in December, 1991, had to insist on Canadian compliance with the GATT and the 1988 Free Trade Agreement (rather than the 1980 procurement procedures agreement) in order to assure that U.S. suppliers were provided an equal opportunity to bid on Canadian sponsor procurement proposals. As in that issue, the GATT and the 1988 Free Trade Agreement (and any trilateral agreement concluded with Canada and Mexico), are far more useful to govern pipeline project procurement in the U.S. and Canada.[20]

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18 This fear had at least two separate bases. First, the Prebuild was "overbuilt" to permit cheap and quick expansion to accommodate Alaskan gas flows. Second, Canada was concerned that its gas might be too expensive, and if too little gas were purchased, there would be inadequate revenues to pay for the production and transportation facilities.

19 The scope of this dispute has been described in my quarterly reports to the President and the Congress, and in the NPA's annual reports.

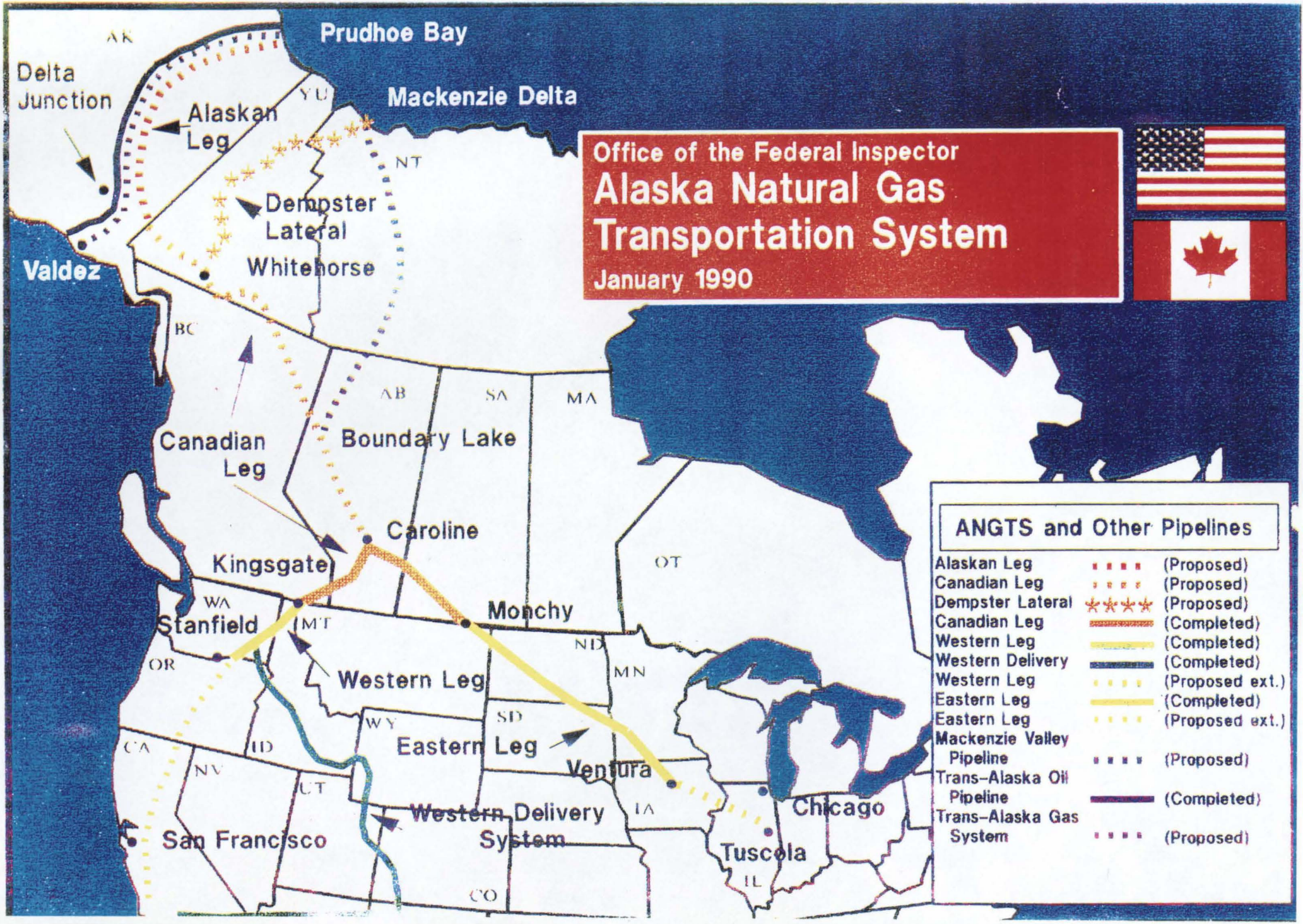
20 This approach would cover all goods and services rather than just the four major capital equipment categories listed in the 1980 Agreement.

The State of Alaska may question any effort that it might view as eliminating the regulatory expedition envisioned by ANGTA for the Office of the Federal Inspector. On the other hand, efforts have been undertaken in Alaska to minimize regulatory burdens and coordinate the pipeline permitting process -- particularly as they relate to the State and Federal permitting process for pipelines, such as ANGTS, that cross substantial amounts of State and Federal lands. Alaska has established a State Pipeline Coordinator within the Department of Natural Resources, which is physically housed with the staff from the Bureau of Land Management of the U.S. Department of the Interior and the Department of Transportation's Office of Pipeline Safety.

The State of Alaska may also feel that the dissolution of the ANGTS and the OFI may further reduce the prospects of developing its vast natural gas resources. Rather, the elimination of a government-mandated exclusive route by designated sponsors will enable creative private sector alternatives to be discussed and developed free of concerns about which project is entitled to the gas by law or what routes must be utilized. This is all the more significant if even larger volumes of gas are discovered should ANWR be opened to development.

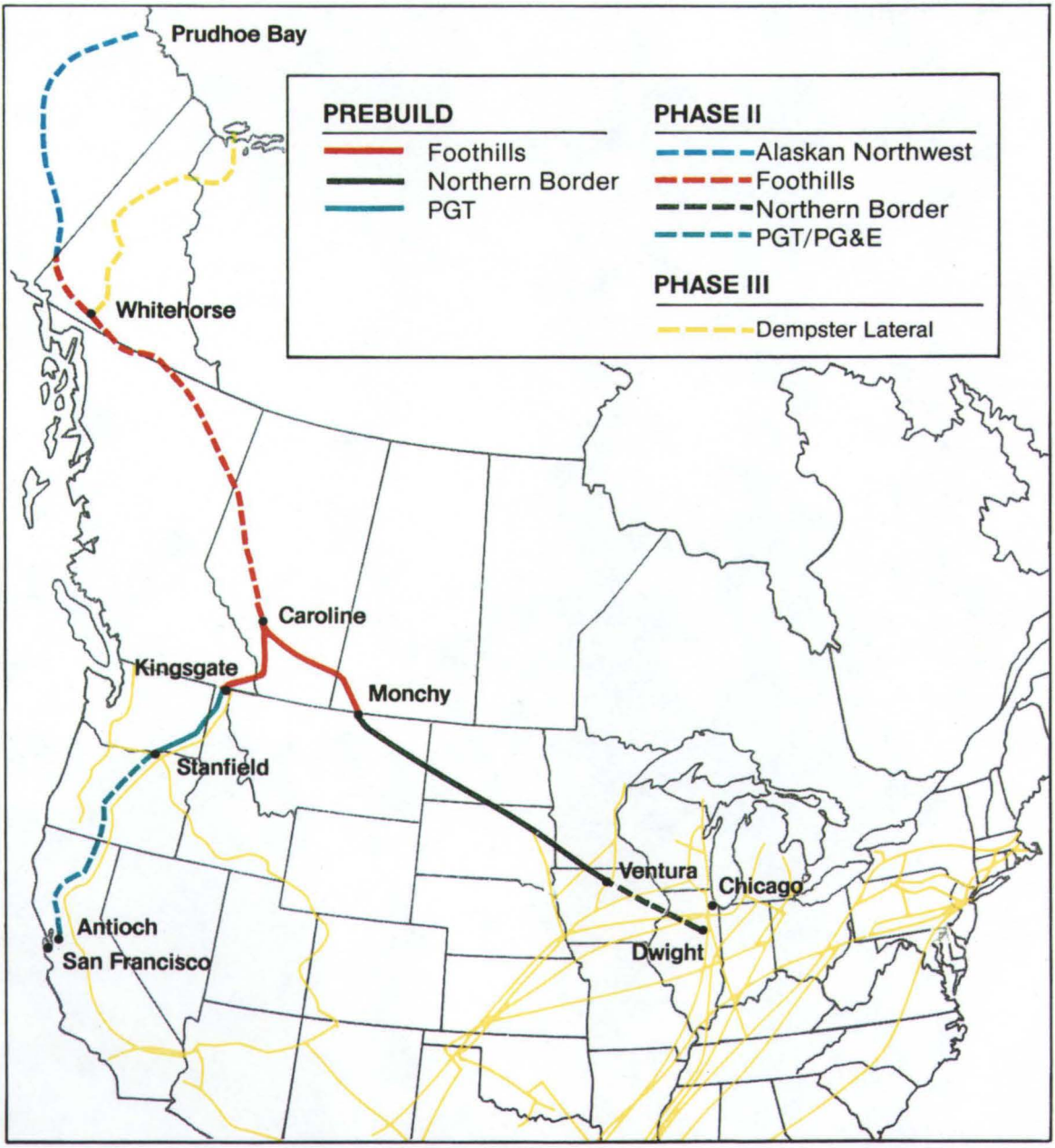
Perhaps as important as what is recommended is what is not. For the reasons elaborated above, it is essential to grapple with the underlying issues posed by continuation of the legal fiction known as ANGTS. The government should remove itself from dictating how and by whom Alaska gas is delivered to the Lower 48 States. Therefore, I do not recommend an option simply to move this Office (or to abolish the Office and move its authorities) to another department or agency, whether it be the Department of Energy, FERC or the Department of the Interior. Such a proposal exalts form over substance, and would merely avoid the fundamental issues we have attempted to set out in this report. I strongly believe that these issues are important enough to warrant careful examination and appraisal.

APPENDIX 1


Office of the Federal Inspector
Alaska Natural Gas Transportation System
January 1990
Prudhoe Bay
Mackenzie Delta
Delta Junction
Alaskan Leg
Dempster Lateral
Whitehorse
Valdez
Canadian Leg
Boundary Lake
Caroline
Kingsgate
Stanfield
Monchy
Western Leg
Eastern Leg
Ventura
Western Delivery System
San Francisco
Chicago
Tuscola
AK
YU
NT
BC
AB
SA
MA
OT
WA
MT
ND
MN
OR
WY
SD
CA
ID
NV
UT
IA
IL
CO
ANGTS and Other Pipelines
Alaskan Leg (Proposed)
Canadian Leg (Proposed)
Dempster Lateral (Proposed)
Canadian Leg (Completed)
Western Leg (Completed)
Western Delivery (Completed)
Western Leg (Proposed ext.)
Eastern Leg (Completed)
Eastern Leg (Proposed ext.)
Mackenzie Valley Pipeline (Proposed)
Trans-Alaska Oil Pipeline (Completed)
Trans-Alaska Gas System (Proposed)

APPENDIX 2

THE ALASKA NATURAL GAS TRANSPORTATION SYSTEM



APPENDIX 3

THE ALASKA NATURAL GAS TRANSPORTATION SYSTEM

COMPARISON OF CAPITAL COSTS FOR PRUDHOE BAY GAS

$U.S.($CDN) BILLIONS

	1982 $	January 1, 1988 $	
	1982 Baseline	1982 Baseline	1988 Re-Estimate
ALASKAN SEGMENT	14.2(18.0)	15.6(20.8)	7.2(9.6)
CANADIAN SEGMENT	7.9(10.0)	8.2(11.0)	5.6(7.5)
LOWER 48 STATES	2.1(2.7)	2.3(3.1)	1.8(2.4)
TOTAL	24.2(30.7)	26.1(34.9)	14.6(19.5)
% Reduction from 1982 estimate expressed in 1988 $			45%

APPENDIX 4

Los Angeles, California 90071
Telephone 213 486 2533

L. M. Cook
Chairman and
Chief Executive Officer

July 23, 1991

Admiral James D. Watkins
Secretary of Energy
Forrestal Building
1000 Independence Ave. S.W.
Washington, D.C. 20585

Dear Jim:

I had hoped to visit with you this week but an unusually hectic schedule and pressing commitments at ARCO prevent me from getting to Washington. I understand that you have recently reviewed Alaska oil and gas operations and have considered the construction of a gas pipeline from Alaska's North Slope to a southern port. Since ARCO has reviewed this issue regularly for the past twenty years, I thought you might be interested in our conclusions.

In the Prudhoe Bay Field, the recovery of enormous volumes of crude oil are dependent on the re-injection of produced gas. If major gas sales of two billion cubic feet per day were to begin late in this decade, the loss of recoverable crude oil would be about one billion barrels. If such sales were delayed until 2005, the loss still would be about one half billion barrels. In short, early sale of gas from the North Slope will substantially reduce the amount of available domestic oil from the Prudhoe Bay Field.

The possibility of replacing diminished supplies of natural gas with inert gases such as carbon dioxide has been studied. The high cost of producing and handling these alternatives is prohibitive. The added costs of making, separating, and re-injecting inert gas would increase the price of Alaskan crude above the foreseeable world market price for crude.

Please do not misunderstand me, we strongly support gas sales from the North Slope. The problem is one of timing. Not only is it critically important that we continue recycling Prudhoe Bay gas for at least two decades, we also are faced with a gas market in the U.S. that will not support the cost of a gas delivery system from the North Slope.

Current world natural gas supplies are plentiful and the price is lower than would seem to support an Alaska natural

gas system in the foreseeable future. If long term market conditions were to change, Alaska gas might be marketable in about 2010. Until then, North Slope natural gas liquids will continue to be extracted and sent to the lower 48 with the crude oil, and the natural gas itself will be re-injected to help produce more oil.

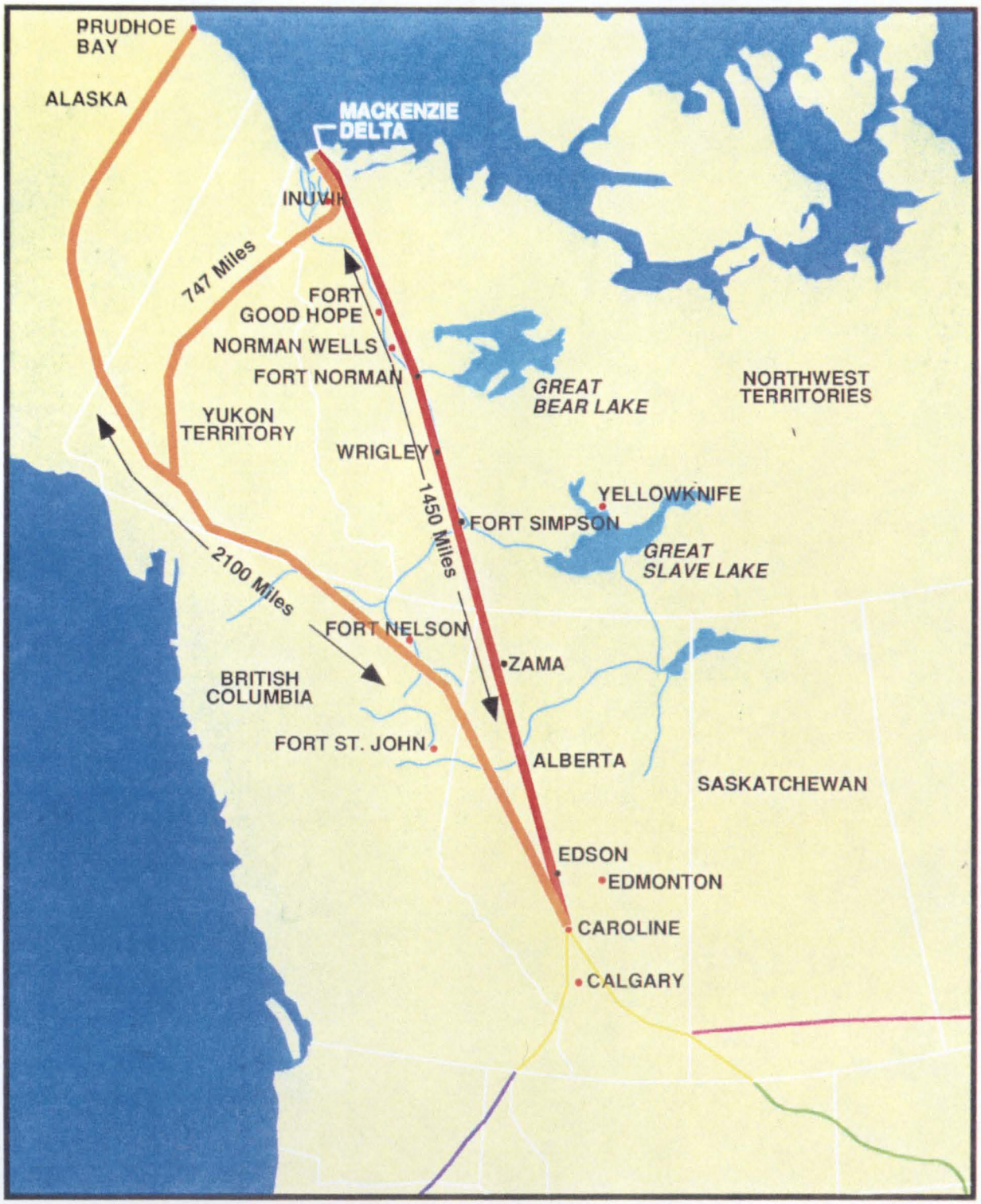
It is difficult to predict with accuracy when major gas sales from Alaska will be viable, but ARCO cannot see such sales being practical in the near future. In summary, decisions regarding major Prudhoe Bay gas sales should continue to take into account the need for gas re-injections as well as gas market conditions.

Sincerely,

Lod

Lodwrick M. Cook

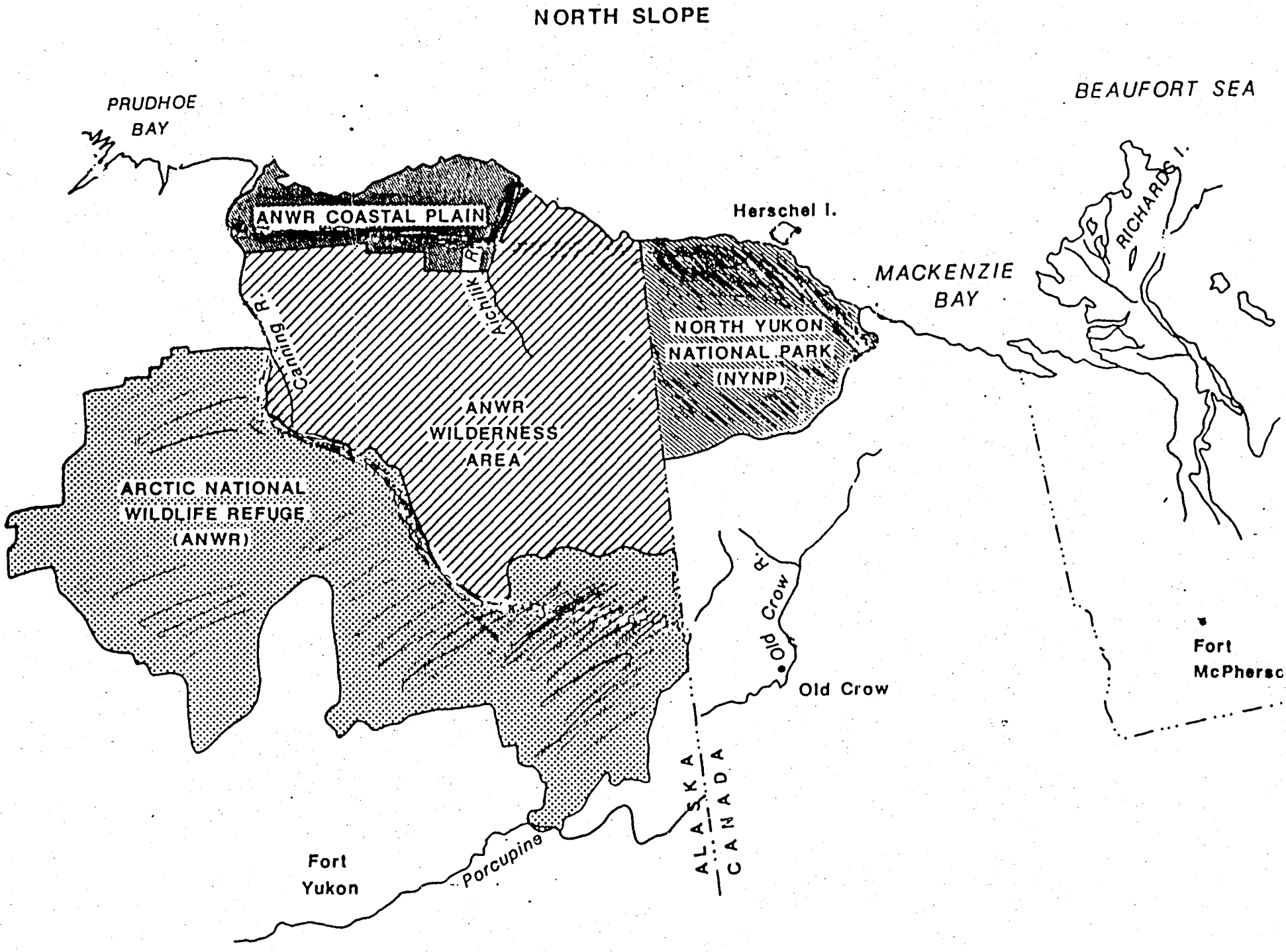
APPENDIX 5



ALTERNATE ROUTINGS FOR DELTA/BEAUFORT GAS

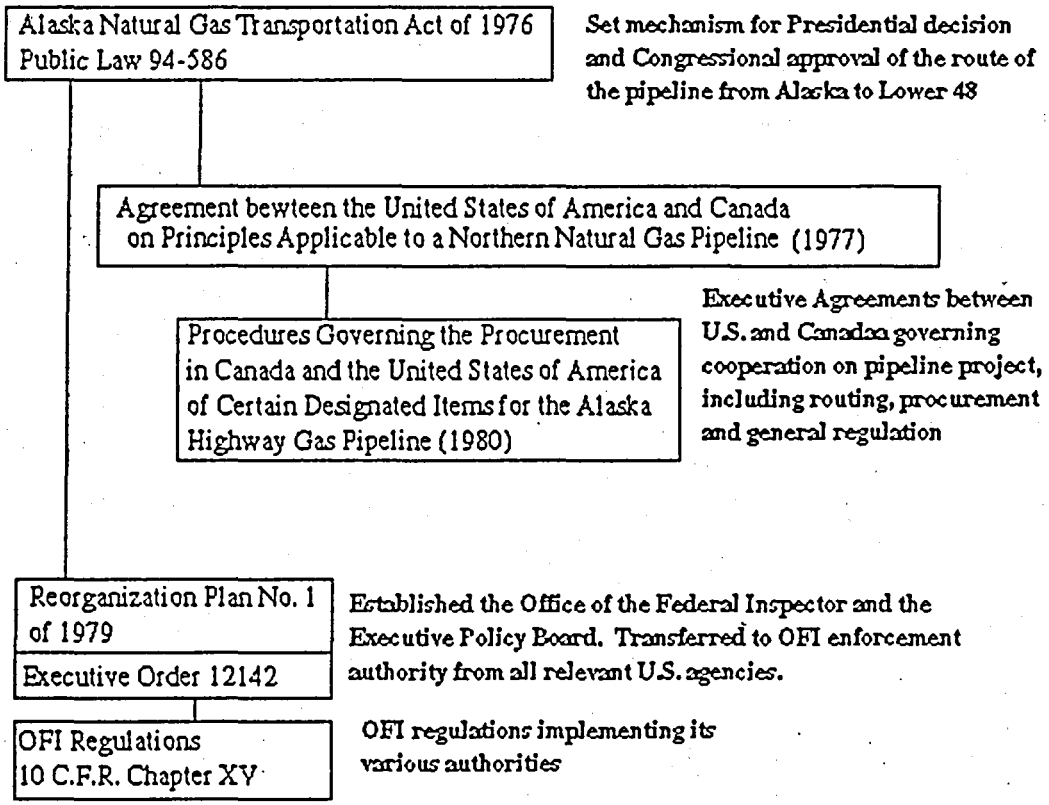
- MACKENZIE DELTA GAS PIPELINE
- ANGTS/FOOTHILLS/DEMPSTER
- FOOTHILLS/NOVA
- TRANSCANADA PIPELINE
- PACIFIC GAS TRANSMISSION
- NORTHERN BORDER PIPELINE
- FUTURE ARCTIC ISLANDS LATERAL

APPENDIX 6


NORTH SLOPE
PRUDHOE BAY
BEAUFORT SEA
ANWR COASTAL PLAIN
Canning R.
Aichilik R.
Herschel I.
RICHARDS I.
MACKENZIE BAY
NORTH YUKON NATIONAL PARK (NYNP)
ANWR WILDERNESS AREA
ARCTIC NATIONAL WILDLIFE REFUGE (ANWR)
Old Crow R.
Old Crow
Fort McPherso
ALASKA
CANADA
Fort Yukon
Porcupine

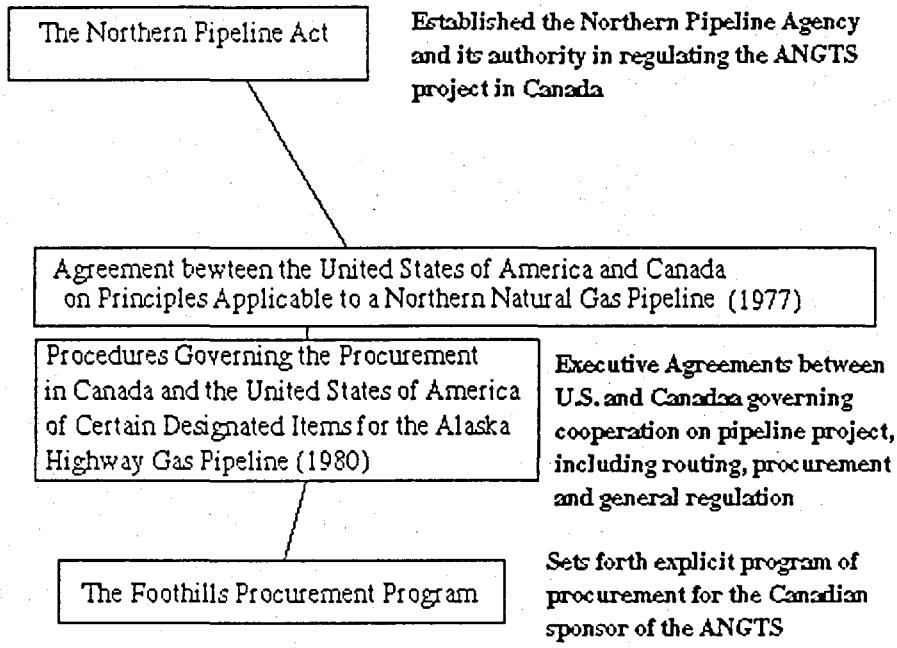
APPENDIX 7

UNITED STATES OF AMERICA



APPENDIX 8

CANADA


The Northern Pipeline Act
Established the Northern Pipeline Agency and its authority in regulating the ANGTS project in Canada
Agreement bewteen the United States of America and Canada on Principles Applicable to a Northern Natural Gas Pipeline (1977)
Procedures Governing the Procurement in Canada and the United States of America of Certain Designated Items for the Alaska Highway Gas Pipeline (1980)
Executive Agreements between U.S. and Canadaa governing cooperation on pipeline project, including routing, procurement and general regulation
The Foothills Procurement Program
Sets forth explicit program of procurement for the Canadian sponsor of the ANGTS