BRINGING ALASKAN GAS TO AMERICAN CONSUMERS

A History of the Alaska Natural Gas Transportation System and the U.S. Office of the Federal Inspector

David J. Kling

The History Project
Office of the Federal Inspector for
the Alaska Natural Gas Transportation System

Washington, D.C.

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PREFACE

This project was authorized by the Office of the Federal Inspector in January 1983 to consolidate relevant historical information on the Alaska Natural Gas Transporation System (ANGTS) and the U.S. Office of the Federal Inspector (OFI). It was researched and written, largely under the supervision of Deputy Federal Inspector Peter L. Cook, by David J. Kling, in conjunction with his varied service to the OFI and with volunteer time associated with his own doctoral study in political science (public organizations) at The Johns Hopkins University.

The Project History (Part One) is in its third draft, while the Agency History (Part Two) may be considered in a final. Neither has been subject to official external comment. Unfortunately, footnotes are available at this time only for the Agency History.

Significant contributions to and reviews of this project were offered by many present and past OFI officials, including J. Richard Berman, Rhodell Fields, Benjamin White, Earl N. Kari, Nancy M. Ellett, William G. Laxton, Willis E. Greenstreet, Gregory Peck, C. Allen Olson, Antonio J. Jover, Linda F. Adams, Dennis Schroeder, David C. Rector, Amos C. Mathews, Robert Stuart and Richard Russell. A special acknowledgement must be afforded to Mr. Cook, who encouraged an objective, independent evaluation and recognized its value to federal public management and administration. A substantial number of other government officials submitted to interviews, particularly John A. Adger, Lloyd W. Ulrich, Guy Martin, Don Smith, Michael Woo, Al Cobb and Jack Donahoe. Several leading sponsor and industry officials were also consulted, but most prefer to remain nameless. Hannah Soorenko, Lois J. Tayman and Gerald Martin, all of the OFI, were essential to the production of the manuscript.

Finally, I must express my great appreciation to John T. Rhett, the Federal Inspector, who made himself available to a series of interviews, examined the drafts and recommended enumerous clarifications and corrections. He authorized the study with hope that the OFI story and experience would not be lost to history. I trust, in some way, this history reflects the wisdom, skill and public interest which Mr. Rhett and his staff consistently demonstrated as they pursued the ANGTS mission. I apologize at the outset for any inaccuracies, misinterpretations or other deficiencies associated with this effort, for which I bear full responsibility.

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INTRODUCTION

In 1966, Tom Miklautsch, a Fairbanks druggist, and Cliff Burglin, owner of an office supply business in the same Alaskan frontier city, became "prospectors" in what would become the state's black gold rush. As partners, they paid $1 per acre for drilling leases on 4,787 acres in the Prudhoe Bay area on the North Slope of Alaska. It was not a particularly risky or expensive venture, as Alaskan adventures go. But Miklautsch and Burglin were following, if somewhat timidly by comparison, in the well-traveled footsteps of men who had for generations sought their fortune at the Arctic's edge.

There was no dispute that somewhere, below the frozen North, large oil desposits existed. Federal geologists had reported many decades before that Prudhoe Bay showed signs of a major oil and gas deposit. Vihjalmur Stefansson, the fabled Arctic exporer, witnessed oil traces as far north as Canada's Melville Island in 1915. Private and government scientists, on dogsleds and later in helicopers, slowly charted Alaskan and Canadian Arctic topography, encouraging speculation and stirring occasional energy exploration. Development, predictably, was very slow. As long as cheap, high-quality petroleum was readily accessible in the southwestern United States, Middle East and, most recently, western Canada, Arctic energy would be properly left on ice.

British Petroleum (PB), in the early 1960s, was among the first major companies to seek North Slope deposits in earnest. By 1967, however, its exploration crews had continually come up dry. Despite BP's frustration, a joint venture by Atlantic Richfield (ARCO) and the Humble Oil and Refining Company (an Exxon subsidiary) was launched in the Prudhoe Bay area. Again, no luck. Miklautsch and Burglin, like dozens of other small Alaskan speculators, began to suspect that their particular North Slope oil "elephant" (an deposit of at least a billion barrels) might be pink.

Finally, on February 8, 1968, a wildcat drilling rig, financed by the ARCO/Exxon team, struck oil at Prudhoe Bay State Well No. 1, located on 90,000 acres on the Alaskan Arctic Slope about 400 miles north of Fairbanks and 150 miles southeast of Point Barrow, on the Arctic Ocean. The preliminary tests were most encouraging: 2,415 barrels of oil and 40 million cubic feet of natural gas a day. A second well, Sag River No. 1, was completed six months later and located seven miles northwest of the first. Together, the two wells provided geologists with a fairly substantial basis for speculation. Robert Anderson, ARCO's chairman, was cautiously optimistic: "We believe this is a significant oil and gas discovery," he told reporters, but the extent of the discovery "must await further testing and exploratory drilling."

Few others were so restrained. Degolyer & MacNaughton, a prominent Dallas oil consultancy, described the field as potentially "one of the largest petroleum accummulations known to the world today." They

estimated between 5 and 10 billion barrels might lie below it. Walter J. Levy, a top international oil consultant, believed a 15 to 20 billion barrel estimate was "not particularly optimistic" while some initial estimates, including that of Alaskan Gov. Walter J. Hickel, rose as high as 50 billion barrels. "At the top of the world," Ruth Seldon Knowles wrote in the Wall Street Journal, "lies the largest untapped potential oil basin in the Western Hemisphere, perhaps one of the greatest oil provinces of the world. It may change the balance of world oil power." In the end, geologists settled on a more conservative forecast: 9.6 billion barrels of oil and 26 trillion cubic feet of natural gas. Nevertheless, this comprised the single largest stock of American oil and 10 per cent of all known American gas reserves. There was enough Prudhoe Bay gas alone to meet all the energy needs of a nation as large as Canada for 11 years.

As it happened, the Miklautsch and Burglin holdings lay less than six miles from State Well No. 1. In late 1968, they sold a half interest in their leases to General American Oil Company for over $2 million in stock and, in doing so, became among the first Arctic oil millionaires. The future, however, would show that few despositions on American Arctic oil and gas would be realized as swiftly and surely as the Miklautsch/Burglin fortune.

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The transport of natural gas across the austere, forbidding Arctic is only superficially a geographical and technical exercise. The icy crevasses of the Brooks Range, the permafrost along the Sagavanirkto River basin and even the polar bears which roam the Phillip Smith Mountains are impressive physical obstacles, ones which require considerable engineering study and skill to surmount. Arctic roughnecks knew Prudhoe Bay would not easily surrender its oil and gas reserves, but they knew also that sufficient will, know-how and money would nevertheless draw them from the ground.

Many of those who built the Trans-Alaska Pipeline System (TAPS) believed that the principal obstacle to Arctic pipelining was neither geographical nor technical but instead political, specifically bureaucratic "red tape." TAPS, in turn delayed and expedited by governmental machinations, was finally built after $9 bilion and 10 years on the slope. It endured spills, welding deficiencies and permafrost, but now pumps some 1.5 million barrels of crude oil daily over the Brooks and Alaska mountain ranges to Valdez for tanker shipment abroad.

TAPS, its builders claim, suffered mightily from redundant, excessive administrative regulation, generated by a government unprepared for such oversight and uncertain as to its proper response. The "red tape," coupled with legal objection, froze TAPS when the Arctic winter could not. Pipeline advocates found that crossing the Yukon River with 48-inch pipe was simple when compared to filing massive environmental impact statements, satisfying legitimate native claims or pacifying

determined conservationists. Only after Congress intervened to circumvent regulatory and legal blocks did the pipeline, and Alaskan oil, finally reach Valdez.

The proposed Alaska Natural Gas Transportation System (ANGTS), first conceived in 1969 although not finally approved until eight years later, followed closely behind TAPS. The ANGTS was longer (4,800 miles) and more expensive ($40 billion) than its oil predecessor. Gasline proponents knew they too would face important financial and environmental challenges. However, TAPS' economic viability and the apparent low level of environmental damage attributed to the pipeline must have been encouraging. There would also be additional "culture shock" to native groups and philosophical dissention from a large percentage of Alaskans who saw their state as an eternal refuge from progress rather than its next frontier. However, TAPS and its entourage had already vanquished the native innocence and lifestyle of the Alaskan Indian (snowmobiles everywhere had replaced dogsleds), while more and more Alaskans were coming to think of their home state as a meal ticket. Clearly, on these counts, the gas pipeline would enjoy a happier prospect than its predecessor.

In addition, the President and Congress moved with precision and dedication to remove any political barriers to Arctic gas development and transport. This time, the federal government would not merely "ride to the rescue" as Congress had done with the Trans-Alaska Pipeline Authorization Act in November 1973, but would instead to discourage prospective ambushers from the start with passage of the Alaska Natural Gas Transportation Act of 1976. Furthermore, a limited executive reorganization by President Jimmy Carter created an independent, single-purpose federal agency - the new Office of the Federal Inspector - to oversee all approvals and construction of the ANGTS. This was done to focus authority, responsibility and accountability, and to avoid the confusion and excess associated with federal TAPS monitoring.

Today, despite this substantial, concerted governmental response, ANGTS remains suspended on the threshold of its second development phase, short of necessary private funding. The ANGTS Phase I Prebuild, two transmission lines flowing from southern Alberta southwest into Oregon and southeast across the Great Plains to Iowa, were finished in Autumn 1982, under budget and on schedule. The Prebuild provides a direct American outlet for excess Canadian gas, which has been flowing swiftly since the Government of Canada changed its export policies in late 1984 and early 1985. The second phase, which includes Alaska and the major Canadian sections, has been delayed indefinitely, perhaps until the 1990s or even the next century, due to deregulatory policy and changes in the gas market structure.

The following history accounts private efforts to organize an Alaska Natural Gas Transportation System and federal government efforts to both regulate and facilitate its construction. It is, be forewarned, a story

without an ending, due to the Phase II suspension. The history details a major American public policy initiative, from its earliest conception through design, development and implementation. In this manner, it examines the federal govenrment's ability to reorganize itself to facilitate a national priority. In particular, it tracks the institution and activity of the Office of the Federal Inspector. The OFI represents an experiment in public administration, in that it serves as a single point (the "one window") for all federal ANGTS contact and activities. The agency was directed to reconcile its missions of ANGTS regulation and facilitation.

Part One focuses on the project history. This section covers the emergence of the major gas transport alternatives, early certification posturing among the leading challengers, congressional modification of the standard regulatory procedures and Presidential selection of a sponsor and route. Also, a major executive government reorganization is examined and the beginnings of project oversight, illustrated. Part Two presents the agency history. It tracks the OFI from its inception and development, through its surveillance of Lower Leg Prebuild construction and its preparations for Phase II in Alaska. It also accounts its organization demise in the face of project suspension. A final Assessment section examines the OFI effort at mid-passage and evaluates its legacy for federal public policy.

Clearly, the final chapters of the ANGTS saga cannot yet been written or its leading characters cast. But while its history is incomplete, it remains instructive. A final chapter is not always required for important lessons to be identified. On the contrary, it may be precisely those lessons learned at mid-passage which will enable a sound course to be chosen and followed in the future.

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What happened to suspend the Alaska Natural Gas Transportation System? Why did the ANGTS project fail?

Some project observers have, during the gradual ANGTS demobilization since late 1982, occasionally asked these two questions in tandem, as though the second flowed logically from the first. Although one may suggest explanations for the first question, those explanations do not suggest the conclusion implied by the second. Clearly, the ANGTS was not built in its entirety as originally planned, but this should not imply a failure of the system concept.

As the history will demonstrate, the project's mid-passage benefits have been quite substantial, as ANGTS Phase I has already gone far to satisfy many of the original objectives of the entire project. Furthermore, recent changes in the U.S. gas market structure may have rendered Phase II of less immediate importance than it appeared five years ago. The suspension of Phase II, rather than a sign of failure, could be

construed as a successful midstream adjustment to altered circumstances.

The sources of ANGTS Phase II demise are not difficult to identify. Analysts seem to agree that, most importantly, the natural gas market situation changed dramatically and profoundly, closing the ANGTS window of opportunity almost before it had opened. The growing Alberta gas bubble, domestic gas deregulation (increased domestic supply) and reduced energy demand due to conservation are cited as reasons underlying the ANGTS Phase II delay.

There appear to be two different and opposing perspectives for assessing the current suspension. In one view, "the system worked." Alaskan economist Arlon R. Tussing is not alone when he suggests that the Phase II suspension is characteristic of what went right - the sponsors, producers, financiers and perhaps most importantly, the federal government each prudently adjusted their strategies and timing on the project to the changing market circumstances. As Federal Inspector John T. Rhett once observed, OFI had little incentive to facilitate a project which might collapse under its own weight, thus imposing higher gas prices on American consumers without significant return. Apparently, neither the North Slope producers, who owned the gas, nor U.S. investment houses, which would finance a large share of the Phase II adventure, cared very much for the new odds.

Those in agreement with Tussing argue that ANGTS Phase II was simply not ripe in 1982, and would not be so for another six to 10 years. The incremental demobilization - two short project slips and the eventual indefinite suspension - represents a reasonable response on behalf of the project principals to evolving market developments. The federal government, for its part, appeared to accept these changes, and cushion consequences for national energy security and Canadian relations as the project was left to its own fate.

There is a second perspective, one less guided by the market's invisible hand and with less faith in its subliminal logic. As the late Sen. Henry M. Jackson (D-Wash) maintained, the value of ANGTS could not be measured solely on the present market value of its natural gas. Even thought the gas was no longer as urgently needed from a supply or economic standpoint, its importance from a strategic energy or national security perspective was not appreciably diminished. Public policy decisions based purely on market indicators are seldom satisfactory. In fact, federal government intervention has historically been triggered by the market's failure to provide a necessary service, such as national defense or public education. While the market can usually attend efficiency issues, it cannot generally weigh equity or value concerns.

The sooner construction began, Jackson and others maintained, the sooner Arctic gas would be a useable commodity. The ANGTS, as a transmission line from Prudhoe Bay, would also help open the wider Arctic energy frontiers of the Beaufort Sea, the Mackenzie Delta and the Cana-

dian Arctic Islands. Finally, Phase II would probably only become more expensive to build as time passed. As Jerome Hass, a Cornell University economist remarked, the nation could pay a great deal now for an Alaska gas transmission system or pay even more later.

Some observers, including Tussing, contend that the Alaska Leg was doomed from the outset by rapidly changing market circumstances, circumstances beyond the control of the project principals. John G. McMillian, the driving force behind the Alaska Leg partnership, would disagree. He would argue that ANGTS viability was real and sustained. After all, as late as June 1982 - after successful passage of waivers to the Alaska Natural Gas Transportation Act - project enthusiasts still spoke confidently about finding Phase II funds. The Alaska Leg partners and the producers had agreed to share design costs. With banks offering billions and the State of Alaska interested in investment, they were negotiating an appropriate debt and equity share which the producers should assume. To some informed spectators, Alaska Leg financing appeared on the verge of completion.

By then, however, it seems that market forces had taken control and the window was closing if it had not already closed. The Wall Street Journal, as early as September 1977, had insisted that the Alaska Leg would "never be built." Its editors foresaw the changing market situ- even then, especially as they related to gas deregulation. "You simply won't get the expensive resources [such as Alaska gas] so long as there is a [chance] that cheaper ones may be around," it concluded, simply and prophetically. Tussing, a year later, advised the DOE that "the Alaska Highway gas pipeline is a marginal venture at best from a business standpoint." It would remain so, he added, even "if it did not face any catastrophic risks such as non-completion or enormous cost overruns," since its gas, by his estimates, could cost five times the prevailing domestic rate and twice that of Canadian and Mexican imports.

Although the window appeared to be closing in 1980 and 1981, McMillian maintained his conviction that Phase II could still find funding for immediate construction. In the federal government, some officials agreed that ANGTS still had an opening, that the 1981 ANGTA waivers carried genuine promise. By allowing producer equity ownership, prebilling, conditioning plant inclusion in the project rate base and by establishing regulatory certainty, financial involvement did become much more attractive. However, after financing failed to materialize in early 1982 shortly after waiver passage, the project's immediate fate was becoming obvious, given producer disposition.

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Project suspension has been a major disappointment for proponents, but the Alaska Natural Gas Transportation System - in its first phase - has nevertheless managed a variety of substantial accomplishments. Even if ANGTS, as Tussing and others contend, was doomed in its totality, it

was not a failed enterprise. Rather, Phase I, after some regulatory and export policy modification, has come to satisfy many of the original objectives of the total enterprise, both from private and national interest perspectives, and it left a valuable legacy of public policy innovation.

The East Leg Northern Border partnership and Pacific Gas Transmission (PGT), the West Leg sponsor for the initial phase, achieved their initial objectives with the completion of the Phase I Prebuild, constructed on schedule and within budget. Although gas throughput was initially low on these sections, recent changes in Canadian export policy and pricing have increased volumes dramatically in late 1984 and early 1985. Likewise, the Canadian Foothills consortium, led by S. Robert Blair's NOVA (formerly Alberta Gas Trunk Lines), has gained a major transmission outlet into a new and profitable market, the American Midwest. NOVA, already a major gas supplier to West Coast shippers and distributors, will increase its share of the U.S. market. Clearly, more Canadian excess gas will continue to reach U.S. consumer through the Prebuild.

Both national governments have been able to accomplish important public policy goals. The U.S. Government, for instance, has increased its energy security by facilitating the import of Canadian gas, thereby reducing the chances of an immediate domestic gas shortage. The Government of Canada, on the other hand, was able to accommodate western producer demands for increased production and export and should improve its balance of payments with the United States - both without reducing gas service to its own citizens.

The American gas consumer will share in the Phase I success. He has gained a sustained gas supply, at least in the immediate future, at a competitive price. The Alberta gas bubble is apparently sufficient to serve U.S. consumers downstream until the year 2000, by which time Arctic gas could be in service through Phase II. Canadian gas, at its new lower prices, could conceivably exert a downward pressure on domestic prices, which are rising as conventional domestic sources are depleted. In addition, consumers have been spared the premature financing of the expensive Phase II enterprise and its costly Alaska gas, which should not be required in the foreseeable future.

The impact of the Phase II suspension on the Prudhoe Bay producers and the Alaska Leg sponsors, however, is more severe. Clearly, the producers would have preferred to build the line and have their gas delivered to Lower 48 distributors on the original schedule - as long as the market would clear their gas. However, without a viable market for their product, they must be consolation in the successful completion of the Prebuild, through which their Alaska gas may someday flow, and must be satisfied with Phase II engineering and environmental pre-design progress on both the pipeline and the gas conditioning plant. In autumn 1983, the producers reiterated their support of the ANGTS and, earlier,

pledged to help provide debt and equity financing whenever the market signs sufficiently improved.

Suspension, however, has been an undeniable blow to the Alaska Northwest partnership, led by the Northwest Alaskan Pipeline Company (NWA) which McMillian formed to direct the project. In late 1984 and early 1985, the partnership lost three members, but did remain intact and publicly optimistic about ANGTS completion. The Alaska Leg partners have spent about $750 million in preparation for Phase II construction, mostly on project pre-design and preliminary regulatory approvals. Most of this work should remain valid, as long as the ANGTS retains the federal government's Alaska gas transmission franchise. In fact, many of the costs associated with this work have already been approved by OFI for rate base inclusion.

Northwest Pipeline Company, NWA's corporate parent and one of the American West's largest transmission firms, should derive immediate benefits from the Phase I success. The Prebuild will enable Northwest, owned by The Williams Companies since a September 1983 purchase from McMillian's group, to ship greater volumes of Canadian gas to PGT and other firms along West Leg route or the associated Western Delivery System, in the Rocky Mountains and across the southwestern United States. The increase in Canadian gas sales, transported through the Prebuild, should take some sting out of project suspension for Northwest. And the project stall, despite its major disappointment, could still have a something of a silver lining for Northwest's affiliate, Alaska Leg operator NWA. The delays have allowed the firm, its consultants and the OFI to devote even extra attention to difficult Arctic engineering problems, such as frost heave mitigation. This further refinement of design criteria and methodology should enable NWA to expedite mile-by-mile project design and avoid major construction snafus once Phase II is underway.

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The Office of the Federal Inspector legacy, as the final Assessment section will suggest, is somewhat mixed. From an management standpoint, the "one-window" agency concept appears quite valuable. Political and bureaucratic considerations, however, may become troublesome and undermine concept adoption or implementation, even when the operational benefits of consolidation appear compelling.

Most importantly, the OFI provided a single federal focus for all project activity - from preliminary design review and approval, permit scheduling and coordination, to field surveillance and enforcement - once initial regulatory grants were issued. The approach, by its consolidation of responsibility and authority, increased agency accountability to the President and the Congress, agency responsiveness to the sponsor, and executive department accommodation of the ANGTS mission. The "one window" enabled greater consistency, timeliness, balance and

cogency in all federal oversight activities, and also served as a convenient single point of contact for all private and governmental entities. Finally, the OFI concept enhanced administrative and operational flexibility, since the new agency was largely free to form its own oversight staff, organization structure and philosophy.

Despite these operational advantages, there remained strong bureaucratic resistence to OFI creation and the transfer of departmental legal authority, even in the temporary, limited ANGTS context. In addition, the convergence of project authority within the OFI did create new dilemmas in balancing the sometimes competing responsibilities of faciliation and regulation - a delicate and complex task.

Federal ANGTS oversight involves several other innovations - limited judicial review, "interactive" pre-design criteria review and new cost control mechanisms - not necessarily implied by the OFI "one-window" agency approach but fully compatible with it. The 1976 act, for instance, mandated expeditious legal review and limited challenge, so that any legal dispute over the ANGTS could be resolved quickly and any prolonged construction delay could be avoided. These provisions proved very successful not only in settling lawsuits quickly, but also in containing marginal legal matters and forcing the early resolution of controversial issues in general.

Analysts of TAPS frequently cited the project's incomplete design at the time of construction as a primary source of its many field construction problems and substantial cost escalation. Project legislation required a variety of pre-design criteria, design and planning approvals before construction could commence, leading the OFI to employ an "interactive" review process by which it could participate informally in sponsor plan development. Early "interactive" review helped clarify governmental requirements at the outset for the project sponsors, allowing them to incorporate federal guidance at the design stage and avoid disputes and costly revisions during construction.

The OFI must approve and monitor sponsor cost control systems to assure that ANGTS expenses are minimized and prudently incurred. This is accomplished implicitly, by the OFI's general oversight of sponsor systems, and explicitly, through direct cost control devices such as an incentive rate of return (IROR) mechanism and ongoing cost audits. While the IROR mechanism was only marginally successful, it appears that careful review of the sponsor's management plan, procurement policies, and cost and schedule control system, in conjunction with an ongoing audit of expended costs, did effectively control Phase I project costs. The ongoing cost audits, contrasted with traditional post-constuction auditing, enable resolution of "prudency" issues early, allowing maximum cost savings, and reduce post-construction regulatory reviews, confusion and expense.

In sum, the "one-window" agency concept, in its limited Phase I application, brought a variety of operational and administrative advantages to governmental oversight of a large, technical construction project involving many disparate federal authorities and requiring timely action. The approach appears to facilitate consistent, balanced regulatory determinations and avoid interdepartmental entanglements, to promote political accountability, to encourage cost-effective, efficient oversight administration.

However, the OFI concept - its institution and success - may be contextually bound. Without an energy crisis, special legislative intervention (the 1976 act), energetic and persistent presidential, congressional and project sponsor support or the general consensus that federal TAPS oversight had been deficient, the concept may never have come to fruition. Bureaucratic objection, in the absence of strong, consensual and sustainted political support for the "one-window" agency concept, may prevent its development and implementation.

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PART ONE: The Project History

THE ANGTS MISSION DEFINED

Chapters

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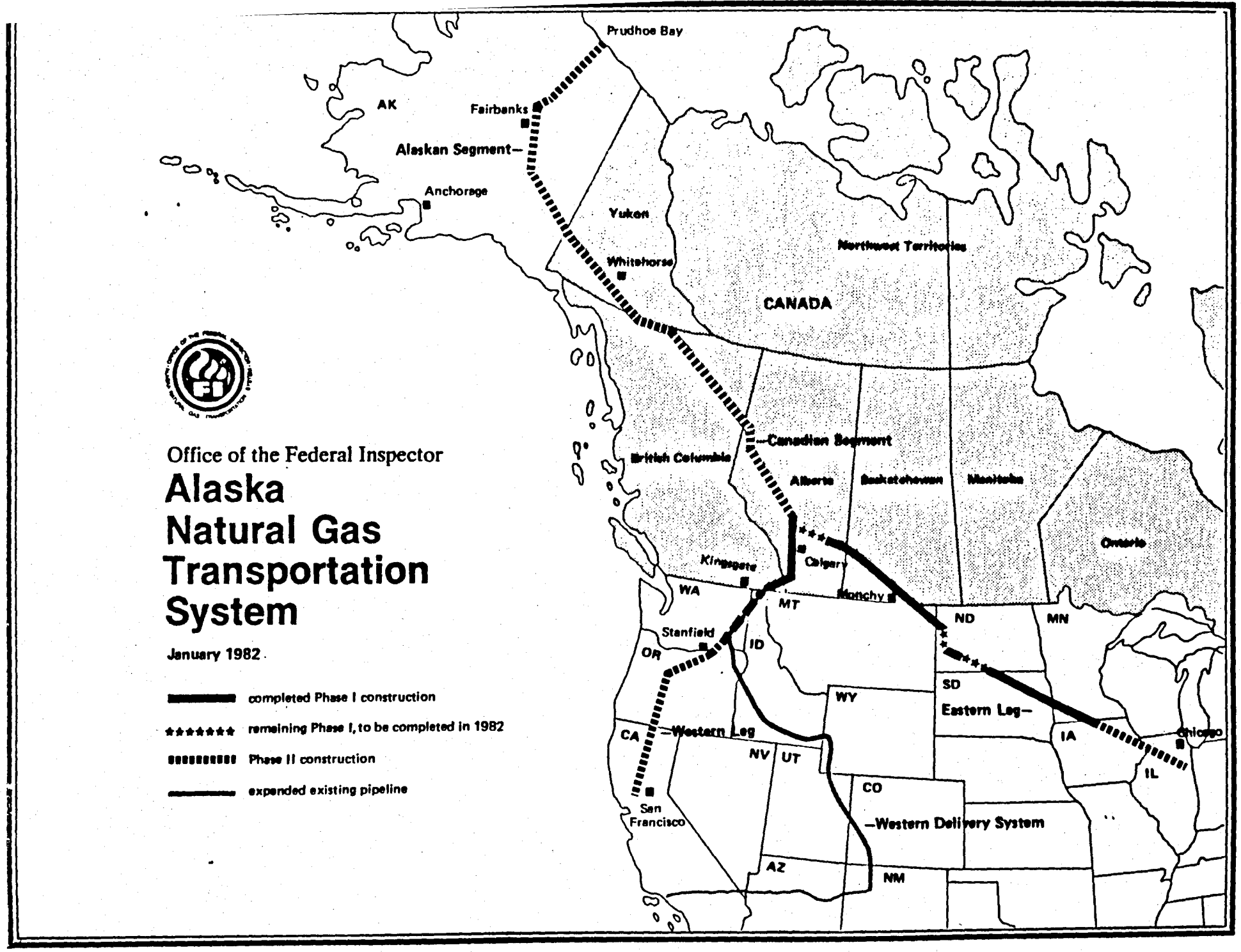
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AK
Fairbanks
Alaskan Segment—
Anchorage
Yukon
Whitehorse
Northwest Territories
CANADA
—Canadian Segment
British Columbia
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Saskatchewan
Manitoba
Ontario
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CO
San Francisco
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AZ
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Office of the Federal Inspector
Alaska Natural Gas Transportation System
January 1982
completed Phase I construction
remaining Phase I, to be completed in 1982
Phase II construction
expended existing pipeline

Chronology of Major ANGTS Events, 1

1968 - 1976

February 8, 1968	Oil is discovered at Prudhoe Bay, Alaska. The new North Slope reserves are estimated to contain 9.6 billion barrels of crude oil and over 26 trillion cubic feet of gas.
February 11, 1969	The Trans-Alaska Pipeline System (TAPS) is proposed by Exxon, ARCO and Sohio to carry their Prudhoe Bay oil from the Alaskan North Slope to a tanker terminal on the Gulf of Alaska.
June 23, 1969	Mountain Pacific Pipeline Ltd., a joint venture of the Bechtel Corporation (Washington) and Westcoast Transmission (Vancouver), announces plans for a West Coast gas pipeline from the Yukon territories south to the Pacific Northwest.
April 1, 1970	Legal action is taken by environmental groups to suspend TAPS construction.
June 27, 1970	Trunk North, a small consortium of western Canadian gas distribution and energy development firms led by Alberta Gas Trunk Line, AGTL (Calgary) announces plans for a 1,550-mile pipeline from the Alaskan North Slope south through the Yukon territories into Alberta province.
July 1970	Northwest Project Study Group, an alliance of Prudhoe Bay producers and leading American and Canadian gas transmission companies, announces plans for a 2,500-mile pipeline from Prudhoe Bay to Canada's Mackenzie Delta, and then south through Canada into the American Midwest. Northwest Project is led by TransCanada PipeLines (Toronto) and Michigan-Wisconsin (Detroit).
June 8, 1972	Trunk North and the Northwest Project merege into Canadian Arctic Gas Pipeline Limited (CAGPL).
December 4, 1972	El Paso Natural Gas announces a 800-mile pipeline along the TAPS route to a Gulf of Alaska port, where gas would be liquefied and shipped by tanker to California for marketing.
October 17, 1973	The Organization of Petroleum Exporting Countries (OPEC) begins an oil embargo of the United States.

November 16, 1973	Congress passes the Trans-Alaska Pipeline Authorization Act (PL 93-153) to free TAPS from pending litigation and expedite construction.
December 6, 1973	Canadian Prime Minister Pierre Eliot Trudeau agrees in principle to the construction of a gas pipeline from Alaska through Canada, such as that proposed by Arctic Gas.
January 23, 1974	The U.S. Interior Department and Alyeska, the TAPS consortium, signed the agreement and grant of right-of-way for the TAPS.
February 1974	Pacific Northwest Pipeline Corporation (Salt Lake City) is divested by El Paso, after 15 years of legal dispute, and sold to a new group, the Northwest Pipeline Corporation, led by John G. McMillian, a Texas energy developer.
March 21, 1974	The Canadian government appoints Justice Thomas R. Berger to lead an inquiry of the environmental and socio-economic implications of Northern pipeline development.
	Arctic Gas files applications before the Canadian National Energy Board (NEB) for certificate of public convenience and before the Department of Northern and Indian Affairs (DINA) for right-of-way to cross Canadian federal lands. Companion applications are filed with relevant government agencies by U.S. affiliates of Arctic Gas.
May 3, 1974	TAPS right-of-way is granted to Alyeska by the State of Alaska.
April 29, 1974	TAPS construction begins.
July 31, 1974	AGTL and Westcoast Transmission, united as Foothills Pipe Lines, announce plans 1,040-mile all-Canadian pipeline project from the Mackenzie Delta to Alberta and British Columbia called the Maple Leaf project.
September 13, 1974	AGTL officially withdrawls from Arctic Gas.
September 24, 1974	El Paso Alaska, the TAPS parallel gasline plan, files with the Federal Power Commission (FPC) for certificate of public convenience and necessity.
January 23, 1975	The FPC consolidates the Arctic Gas and El Paso Alaska applications (Docket No. CP75-96 et al.) for comparative consideration.

March 3, 1975	Canada's Berger Inquiry, officially the Mackenzie Valley Pipeline Inquiry, begins public hearings in Yellowknife, Northwest Territories.
March 27, 1975	Foothills files its Maple Leaf application with the Canadian NEB for certificate of public convenience and with DINA for right-of-way across Canadian federal lands.
May 5, 1975	FPC Administrative Law Judge Nahum Litt begins hearings on the two competing U.S. applications for Alaska gas development and transmission: Arctic Gas and El Paso Alaska.
June 1975	U.S. Department of the Interior (DOI) issues its draft Environmental Impact Statement (EIS), which notes the environmental superiority of an alternative pipeline route, called the Fairbanks corridor, south along the Alaska Highway.
January 1976	Two U.S. Senate committees with Alaska energy jurisdiction recommend the Alaska Highway corridor as an overland alternative to the Arctic Gas route.
March 15, 1976	AGTL, Westcoast Transmission and Northwest Pipeline, united as the Alcan Highway group, commission a feasibility study for a gas pipeline from the North Slope along the Alaska Highway into Canada and the western U.S.
April 7, 1976	DOI issues its final EIS for Alaskan natural gas pipeline development.
April 23, 1976	The Alcan group, led by Northwest Pipeline's McMillian and AGTL's S. Robert Blair, agree to sponsor the Alaska Highway Pipeline project.
July 9, 1976	The Alcan group formally submits its Alaska Highway application for certificate of public convenience and necessity to the FPC for consideration.
July 23, 1976	FPC accepts the Alaska Highway application for comparative consideration with the Arctic Gas and El Paso Alaska plans. Judge Litt is directed to assess the Alcan group plan in his hearings, now in their 14th month.
August 31, 1976	The Alcan Group files its application with Canadian authorities for the Canadian sections of the Alaska Highway proposal.

September 10, 1976	Canadian NEB accepts the Alaska Highway application for consideration along with the Arctic Gas and Maple Leaf proposals.
October 1, 1976	Congress passes the Alaska Natural Gas Transportation Act (ANGTA), which establishes procedures for Alaska gas pipeline selection and sets a September 1977 deadline for presidential decision.

Source: OFI "Chronology of Major Events" and various project documents.

The First Year

In April 1969, as Arctic geologists continued to fathom the depth of Alaskan oil deposits, the American Gas Association announced that U.S. proven natural gas reserves declined in 1968 for the first time since recordkeeping had begun in 1946. /1 "Proven" gas reserves, defined by the American Petroleum Institute as those which "data demonstrate...to be recoverable from known reservoirs under existing economic and operating conditions," totaled 287.4 trillion cubic feet (Tcf) on December 31, 1967, down two percent from 292.9 Tcf in 1967. /2 Gas production, on the other hand, rose nearly a trillion cubic feet from 1967 to 1968, now totaling 19.4 Tcf. Rising gas demand and declining supply, the association warned, was an ominous signal, particularly when viewed in relation to declining domestic crude oil stocks.

Oil, however, would preoccupy Alaskan energy decisions in the late 1960s and early 1970s. First, while gas reserves were just beginning to decline, American oil reserves, in 1968, dropped for the fifth time in nine years. Reserves in 1968 were set at only 30.7 billion barrels while American production continued its rise, now at 3.1 billion barrels annually. /3 Since imports were contained at 12.2 percent of domestic production and new annual domestic discoveries now ran less than 2.5 billion barrels, a precipitous drain on domestic reserves appeared inevitable. /4 Furthermore, from a technical standpoint, well gas, in association with oil, often becomes the instrument of the latter's removal through a process known as gas expansion. In a gas expansion reservoir, such as those in Prudhoe Bay, gas is reinjected under the oil, and its pressure is used to lift the oil to the surface. /5 Therefore, oil, by standard engineering practice, would be the first product available for market, regardless of energy need.

By mid-1968, only a few months after the discovery at Prudhoe Bay State Well No. 1, the North Slope's "black gold rush" was into full swing. /6 Atlantic Richfield Company (ARCO), holding mineral rights to 900,000 Alaskan acres, the largest single share on the slope, sponsored four drilling rigs and planned a Washington state refinery in alliance with Exxon USA, which controlled rights to about 600,000 acres. Other firms, with smaller shares, also began to stir. British Petroleum (BP), an Alaskan oil pioneer, had a rig onto the slope by December to probe its 600,000 acres. Shell Oil (300,000 acres) agreed to joint seismic activities with Standard Oil of California (rights unannounced) by autumn. Mobil Oil Company, which jointly held rights to 390,000 acres with Phillips Petroleum, planned to have two rigs operating by early 1969. Texaco Inc. (231,000 acres) organized a seismic team for well exploration. Of the "Seven Sisters," only Gulf Oil Corporation lacked a major interest in arctic Alaska.

To find oil was one thing; to market it, quite another. Geologists had for many years suspected large deposits on the North Slope and along

Canada's Mackenzie Delta, but development and shipping costs discouraged activity as long as conventional sources were plentiful. In August 1968, ARCO and Exxon began to consider the efficacy of a trans-Alaska pipeline 800 miles through the Alaskan mountains to a southern port, perhaps one along Bristol Bay or on the Gulf of Alaska. /7 Cost was estimated at $800 million. The oil would be shipped by tanker to Bellingham, Washington, where 100,000 barrels a day could be refined for West Coast consumption. The two firms were already examining very preliminary plans for a $1 billion, 3,300-mile pipeline along the Alaskan rim east into Canada's Mackenzie Delta then south into the American Midwest, where demand was higher. This pipeline also had the virtue of connecting with prospective Canadian fields in the Northwest Territories and with existing fields throughout Alberta.

In December 1968, a third proposal was announced jointly by ARCO, Exxon and BP: an oil tanker "Northwest Passage" through the Canadian Archipelago. /8 The passage, aimed at East Coast markets, would be charted by the U.S. tanker Manhattan, a 115,000-deadweight ton vessel with an ice-breaker bow. "If successful," noted M.A. Wright, chairman of Humble Oil (an Exxon affiliate), "the test could result in...a new commercial shipping route through the Arctic region with broad implications for future Arctic development and international trade."

In January 1969, less than a year after ARCO/Humble drillers discovered Prudhoe Bay oil, geologists with Panarctic Oils Limited of Calgary, a joint venture by the Canadian government and several private Canadian oil firms, found major gas deposits in the Canadian Arctic Islands. /9 Panarctic was a curious corporate creature, a predictable response of a nation most uncomfortable with American, Dutch and British domination of its own western energy production. It was created to ensure a Canadian "presence" in Arctic oil and gas development, a frontier still relatively free of the "Seven Sisters" and their energy development cousins, by subsidizing the exploration of smaller Canadian firms. The government, with a 45 percent equity share (purchased for $9 million) in Panarctic, maintained minority status in the $20 million operation but deferred decision to its corporate partners.

In any event, the Panarctic find complemented a chain of major discoveries along the continent's northwestern rim from Alaska's North Slope to Canada's Cape Parry, at the Amundsen Gulf. The energy rim included Prudhoe Bay, the Beaufort Sea and the promising Mackenzie Delta area. The Arctic energy prospect, within a year, had expanded well beyond Alaska.

The major Prudhoe Bay partners did not tarry in choosing a preference among their oil pipeline alternatives. On February 11, 1969, ARCO, Exxon (through its Humble Refining affiliate) and BP announced plans for the Trans-Alaska Pipeline System (TAPS), a $900 million, 800-mile pipeline across "Alaska to move to market at least part of the anticipated crude oil production from major discoveries on the Arctic Ocean." /10

The 48-inch diameter line, which would have an initial capacity of 500,000 barrels a day, would be the largest pipeline in North America and possibly the most expensive private construction project in history. Although no exact route had been established, it would run generally from the Prudhoe Bay area south over the Brooks and Alaska Ranges to a yet undetermined port on the Gulf of Alaska. ARCO and BP would own 37.5 percent of the line; Exxon, the remaining 25 percent. Completion was projected for 1972. Officials, after the unveiling, insisted that the other two transport alternatives, the "Northwest (tanker) Passage" and the longer trans-Canada pipeline, had not yet been discarded, but it was apparent that TAPS was their leading plan.

Canada, apart from its Panarctic involvement, was demonstrating its resolve to enter Arctic energy development several other ways. In December 1968, its Task Force on Northern Oil Development (TFNOD), an energy advisory commission of deputy ministers, strongly endorsed Mackenzie Valley oil and gas development and stated the Canadian government's determination, under Liberal Prime Minister Pierre Eliot Trudeau, to become involved in any energy transmission project over Canadian territory. /11 This resolve was soon illustrated when the Canadian government, hearing of an Exxon trial tanker shipment of Alaskan oil through the Canadian arctic archipelago to the American East Coast, insisted upon accompanying U.S. Coast Guard escort. /12

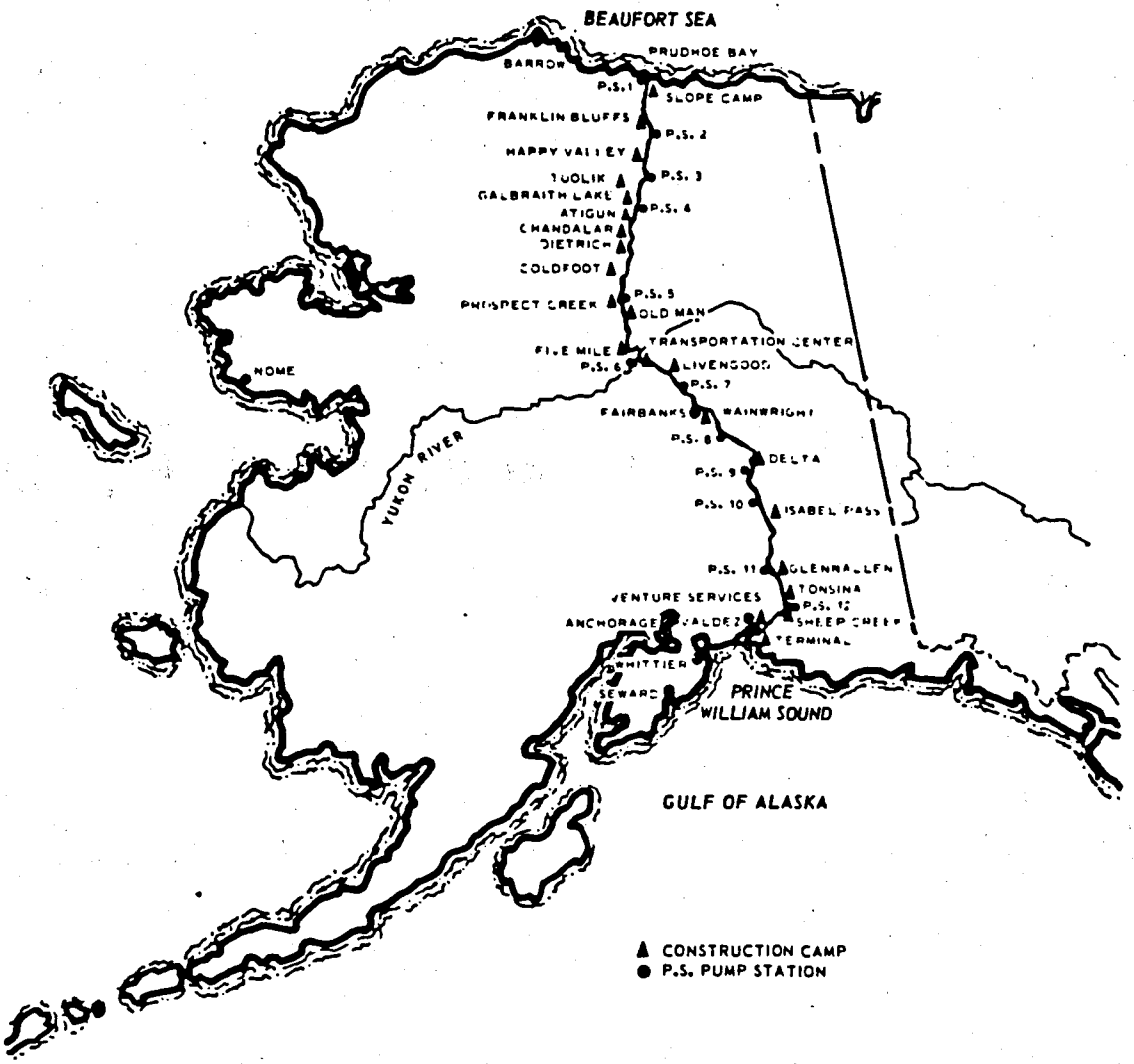
In summer 1970, the Canadian National Energy Board (NEB), upon Trudeau's council, would begin to use gas export policy more concertedly as a diplomatic device in U.S.-Canadian relations, usually to promote energy interdependence between the two nations. The gas export allowance to the United States, at that time, would be increased by 50 percent, a bold step that made about a third of all proven Canadian gas reserves available for export. /13 Finally, Canada would labor to revive interest in a trans-Canada oil pipeline after TAPS, in 1970, was stalled by environmental litigation. /14

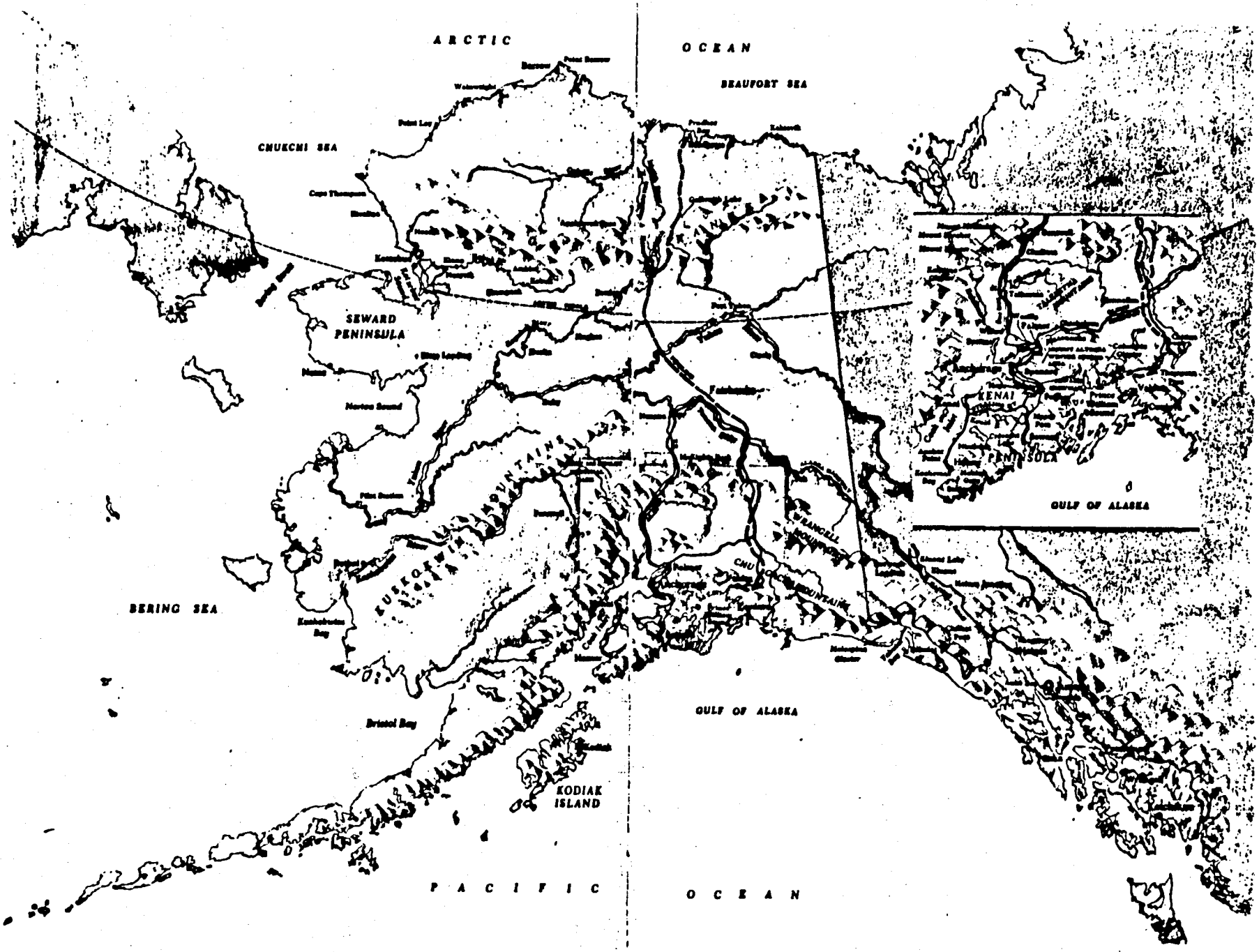
In March 1971, Jean Chretien, Minister of the Canadian Department of Indian and Northern Affairs (DINA), would state in no uncertain terms his nation's interest on a joint pipeline venture before a gathering of American oilmen in Dallas:

> We in Canada would welcome the building of (an Alaskan) gas pipeline through our country and would do everything that is reasonable to facilitate this particular development. /15

The pipeline, he explained, would provide Canada with a means of mitigating both its severe balance of trade deficit, through greater gas export, and its current economic slowdown, through the addition of major construction activity. Additionally, it offered an opportunity to improve relations with the United States, and perhaps most importantly, an occasion to condition inevitable Northern energy development somewhat in accord with its own preferences.

TRANS-ALASKA OIL PIPELINE ROUTE

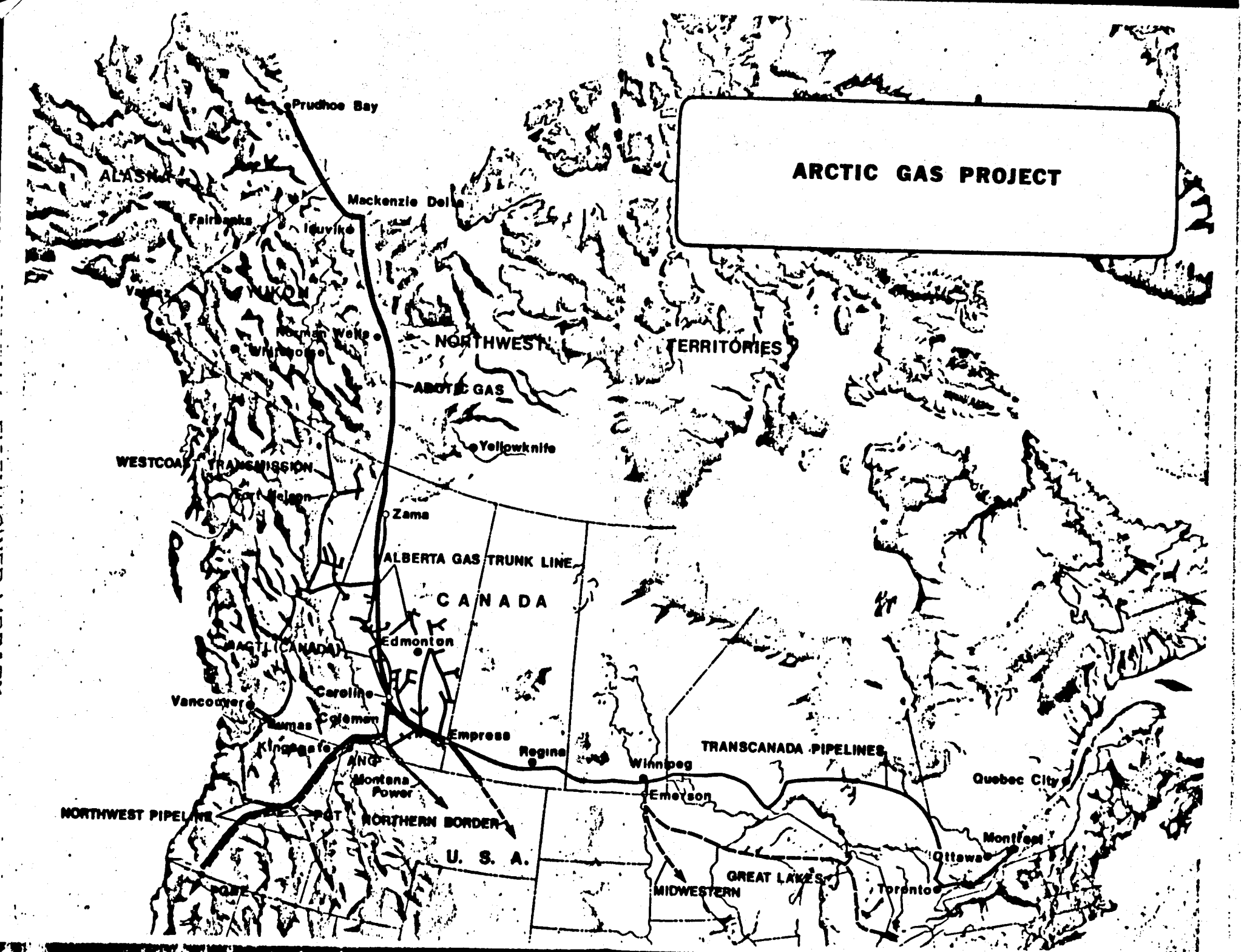



ARCTIC
OCEAN
BEAUFORT SEA
CHUKCHI SEA
SEWARD
PENINSULA
BERING SEA
Bristol Bay
KODIAK
ISLAND
PACIFIC
OCEAN
GULF OF ALASKA
KENAI
PENINSULA
GULF OF ALASKA

While oil deliberations held the center ring, natural gas discussions had begun beyond the spotlight. As early as 1967, the Northwest Project Study Group (NWP) was established by three large North American gas transmission firms: Michigan Wisconsin (Detroit); Gas Pipline Company of America (Chicago) and TransCanada PipeLines (Toronto). They united to investigate the feasibility of a natural gas pipeline from Canada's Northwest Territories to their Midwestern markets in the south. NWP was led by TransCanada President Vernon L. Horte, a businessman-engineer with roots in the American oil industry and a reputation for successful coalition-building, and Wilbur H. Mack, chairman of Michigan Wisconsin. In early 1969, NWP enlisted three major Prudhoe Bay oil producers (ARCO, Exxon and Standard Oil of Ohio) and began a preliminary gasline study. /16

In early May 1969, a second team coalesced and produced a preliminary development plan. Mountain Pacific Pipeline Limited, composed primarily of the Bechtel Corporation (San Francisco), Westcoast Transmission (Vancouver) and several large U.S. Pacific Coast power companies, proposed a two-stage western gas pipeline from Prudhoe Bay through new gas fields in the Northwest Territories and south to the U.S. Pacific Northwest. /17 The first stage, a $400 million, 995-mile link, would carry 800 million cubic feet each day from Fort Liard, in the southwestern corner of the Territories, through British Columbia to Idaho, where it would link with existing lines. It would be complete, developers suspected, by autumn 1973. A second phase would build a $800 million, 1,085-mile extension north to Prudhoe Bay and increase the line's capacity to 1.7 Bcf. daily, and eventually to 2.5 Bcf. Mountain Pacific's primary market was California, which had become the nation's leading natural gas consuming state by 1935 and where consumption was still increasing by many times the nationnal average. /18

Finally that same summer, the Alberta Gas Trunk Line Company Limited (AGTL), in conjunction with the Canadian National Railway (Toronto) and other small Canadian energy interests, united as the Gas Arctic Systems Study Group, also known as Trunk North. /19 In Arctic energy development, it would be the David to NWP's Goliath. AGTL, established by the Albertan government in 1954 (much to the consternation of major oil companies operating in the province) was perhaps destined, due to its control of Albertan gas transmission and its central location in the Alaskan project path, to be a pivotal actor in the Arctic gas scenario. Its president, S. Robert Blair, was an ardent nationalist who believed that any Arctic pipeline crossing Canada "should be majority owned and controlled by the Canadians." /20 Additionally, he believed the line should be a common carrier, not controlled by American producers or southern suppliers, and should integrate with AGTL's existing pipeline network. Such opinions alienated AGTL from the NWP, the powerful U.S. producer-led consortium organized earlier by Horte and Mack. The philosophical gap between Blair and the NWP would later narrow somewhat, but it would never be completely be bridged.


ARCTIC GAS PROJECT
Prudhoe Bay
ALASKA
Fairbanks
Mackenzie Delta
Iduvik
YUKON
Norman Wells
Whitehorse
NORTHWEST
TERRITORIES
ARCTIC GAS
Yellowknife
WESTCOAST TRANSMISSION
Fort Nelson
Zama
ALBERTA GAS TRUNK LINE
CANADA
Edmonton
PACIFIC (CANADA)
Vancouver
Caroline
Coleman
Empress
Regina
Winnipeg
TRANSCANADA PIPELINES
Quebec City
Emerson
Montana Power
NORTHWEST PIPELINE
NORTHERN BORDER
U. S. A.
GREAT LAKES
MIDWESTERN
Toronto
Ottawa
Montreal

As 1969 drew on and the three Arctic gasline study groups began their very preliminary deliberations, the TAPS consortium took affirmative action on its trans-Alaskan pipeline. In May, TAPS awarded a contract to supply 500,000 tons of steel pipe to three Japanese steel corporations. /21 While bids were invited from both domestic and foreign steel companies, no U.S. firm had the capacity to produce the specified 48-inch diameter pipe. Kaiser Steel Corporation of Oakland placed a bid, apparently able to "tool up" if it won the contract, but was not chosen. Exxon, in the meantime, persisted in its "Northwest Passage" initiative. /22 The Manhattan's 35-day, round-trip journey from Philadelphia through the North Canadian archipelago to Prudhoe Bay and back, guided by U.S. and Canadian aircraft, was taken in the autumn. Exxon, upon the tanker's return, pondered its data secretly for over a year before deciding to scuttle the plan. The Manhattan, heavily fortified for its excursion, did successfully negotiate its journey. "We now know that icebreaking tanker transportation is a workable alternative," Wright told reporters, but apparently not a cost-effective one, in light of overland and Pacific shipping options. /23 The "Northwest Passage," at least for Alaskan oil, would be closed.

Alaska, as the means for tapping its energy were deliberated, prepared for a new boom. Suddenly, the state was for sale, but the price was high. In September 1969, Alaska raised over $900 million from the sale of North Slope oil leases. /26 Apart from the leases, granted on 179 tracts of about 451,000 acres, the state would also collect annually a 12.5 percent royalty on oil produced on state lands; a four percent "severance" tax on the same oil and a 90 percent royalty for oil produced on federal lands. All royalties, given the field's projected yield of a million barrels of oil each day, would amount to about $140 million - roughly equivalent to the state's entire 1970 budget. In a state which survived by boom and bust, there was new life in Alaska.

The federal government quickly stepped in to facilitate TAPS. In early October, U.S. Interior Secretary Walter Hickel announced the completion of preliminary federal stipulations for the construction of the TAPS, which would, for most of its 800 miles, cross government lands. /27 Hickel, a former Alaskan governor, had expedited the draft regulations, well aware of the Prudhoe Bay partners' impatience to begin line construction. The 50-page document, which specified activity ranging from oil line insulation to native hiring targets, headed to Capitol Hill for review. The stipulations, Hickel said, would ensure that "the wildlife and ecology of the Arctic, along with the culture and opportunities of Alaska's native citizens, will be enhanced" by the pipeline.

In early December, the Senate Interior Committee, having studied Hickel's TAPS stipulations, judged them credible. /28 Upon approval by the House Interior Committee, the way would be cleared for issuance of TAPS rights-of-way. Not everyone, however, was enamoured with the TAPS prospect. In early November, a $1 billion damage suit was filed by noted defense attorney Melvin Belli on behalf of the Nondalton-Lime Hills

Indians. /29 The Belli suit charged the TAPS consortium and five other major Prudhoe Bay producers with trespassing on native-owned lands, illegally establishing oil and gas drilling facilities there and extracting "minerals without the consent of the plaintiffs." Native title to the land, the suit claimed, was never "terminated by law, sale or any other method." House committee members approved the stipulations, but as a result of the Belli litigation, withheld final endorsement until the native claims issue could be clarified.

The Prudhoe Bay consortium hardly missed a beat. As Congress reviewed the stipulations, the Trans-Alaska Pipeline Company received bids for the first five of its 10 major pipe-laying contracts. /30 The bid specification package, which incorporated the TAPS stipulations, weighed 70 pounds, according to the Wall Street Journal. These initial contracts would be for a 100-mile stretch northward over the Chugach Mountains and for four adjoining segments from Fairbanks north to the Yukon River, another 388 miles. TAPS, with industry enthusiasm and the government's cooperation, appeared off and running.

The first year, 1969, was a time of discovery and great expectation. The Prudhoe Bay deposit was judged considerable and prospects for its extraction, despite substantial engineering obstacles, appeared quite good. Oil clearly appeared the imperative. TAPS was proposed in some detail during 1969, and both Alaska and the federal government were enthusiastic over its prospects. Canada announced its receptiveness to pipeline development on its territory. The oil companies, if not fully appreciative of the magnitude of their undertaking, were nevertheless undaunted and reconciled to the uncertainty and expense of major Arctic drilling, processing and transport.

Gas was, so to speak, temporarily on the back burner. It was, after all, the instrument of oil extraction; it would be of more immediate value in the ground, as a means to lift the oil through the well, than out on the market. Furthermore, gas, neither as easily or profitably marketed as its liquid cousin, could benefit from a longer period of technological brainstorming. Finally, gas pipeliners were suffering a tarnished image, the residual of recent scandals and perceived safety hazards. Another debacle would not bode well for them. In all, the gas pipeline would not take shape as quickly as TAPS, but it appeared to have the same bright prospect.

Such enthusiasm and optimism would soon be tempered for both oil and gas development. Two major dissenting groups, both to prove of considerable consequence, were fast to emerge: the Alaskan Indians (natives), who saw Alaska's northern wilderness as their home and the means of their future survival, and the emergent environmentalists, who saw it as the last American preserve - a natural resource in itself more precious than the oil and gas it held. They would soon break the momentum of the first year. Government had endorsed the concept of a trans-Alaska oil pipeline from the bay south to warmer ports. But it is, as we shall see, far easier to endorse an idea than to develop a public policy for its realization.

Alternatives Emerge

In April 1970, Blair's Trunk North announced plans for a 1,550-mile, $1.5 billion gas pipeline from Alaska's Prudhoe Bay south through the Canadian Yukon and Northwest Territories into Alberta. There, it would connect with 2,800 miles of existing AGTL pipeline, which serviced the Canadian east, west and the American Midwest. /36 Essentially, the proposed route followed a northern path very similar to that charted earlier by the Mountain Pacific venture. The plan was composed of three segments: a 350-mile, $100 million Albertan section, a 900-mile, $1 billion Northwest Territories/Yukon branch and a 300-mile, $400 million Alaskan line. Each segment would be separately owned and operated. The network, however, would be integrated for gas delivery from the Arctic rim. Initially, the line, composed of 48-inch diameter pipe, would carry 1.5 Bcf. daily, with capacity eventually rising to three Bcf. by 1980.

Trunk North, upon their announcement, authorized a series of feasibility studies - engineering design, financing, ecological and environmental. Particular care was taken in Trunk North planning, according to Donald Peacock, a Canadian journalist who has monitored Canadian energy development. /37 A series of visits were organized along the proposed pipeline route between Trunk North personnel and Northerners to discuss various pipeline concerns. Many programs, including one plan to train Northerners in pipeline trades, were identified to both soften the pipeline's impact on native communities or to ease native transition into the modern age.

A few months later in July, NWP, after months of deliberation and a battery of preliminary studies, stole Trunk North's thunder. /38 It announced its a 2,500-mile pipeline proposal, also with pipe 48-inches in diameter and also designed to transport 3 Bcf. of gas daily. Construction would cost a staggering $2.5 billion. It would be the most expensive private construction project ever attempted, far grander than either the TAPS plan or the Trunk North proposal. Three factors were responsible for the additional mileage and costs.

First, the NWP pipeline was aligned from Alaska's Prudhoe Bay east along the Beaufort Sea through Canada's Mackenzie Bay to the Richard Islands, a focal point for future gas development. Only then would it drop south, through the Mackenzie River Delta into Alberta. This considerable detour was designed to accommodate projected Canadian desposits in the area. Second, the NWP line extended throughout Alberta, independent of existing AGTL network. This comprised a major duplication of transmission facilities, a price the Northwest group was apparently willing to pay in order to avoid the AGTL toll they feared Blair might demand. Finally, the proposed line drove deeply into the United States, with the main trunk splitting just north of Calgary and branches proceding east to Chicago and west to San Francisco. North Trunk's southern marketing provisions were no match for NWP's sophistocation below the border.

With its announcement, the Northwest Project coalition was careful to clarify its position on two points. First, the preliminary nature of the study was stressed.

> It should be emphasized at the outset, however, that the Study Group is not now announcing that the Northwest Project will be built or even that governmental approvals will be sought for that purpose. Neither our group not anyone else is in a position now to say that a project of this scope and magnitude is feasible or financeable or to announce early construction plans. /39

Second, ownership of the Canadian portion would be open to Canadian interests, although no specific stipulations were provided. NWP, as noted earlier, was essentially an American coalition, led by Mack's Michigan Wisconsin and allied with the big three Prudhoe Bay producers, Sohio, ARCO and Exxon (through their affiliates). The major Canadian partner was TransCanada PipeLines Ltd., headed by Horte. TransCanada, based in Eastern Canada and well connected below the border, intended to be its nation's major ANGTS broker, despite ATGL's extensive holdings and traditional hegemony in the western regions.

The NWP feasibility study, expected to cost $12 million, was composed of four parts: engineering design; gas reserve accessibility; financing; and, as journalist Donald Peacock expressed it, a new consideration of "ecological investigations," or environmental impacts. /40 The environmental movement had, by the early 1970s, begun to capture the imagination of citizens and legislators of both nations. TAPS itself, as we shall see, had just been suspended by environmental activists, convinced that project sponsors were insensitive to the impacts their activity might have on the pristine Arctic. Peacock, a close observer of Canadian energy development, suggests that NWP, particularly its leading American producers, was hoping to coopt environmentalists with the rhetoric of "ecology politics" when, in fact, it had very little genuine regard for the environment. Its subsequent studies, he contends, demonstrated only superficial assessment of environmental effects.

As the two major gas transmission alliances charted their courses, the TAPS initiative, after a promising start, would be stopped in its tracks. The Trans Alaska Pipe Line Company (TAPL), the consortium of eight major Prudhoe Bay oil companies, was compelled, in mid-January 1970, to return pipe-laying bids it had received earlier from 21 contractors. /41 The bids were for the five southern sections of the pipeline, about 450 miles from Valdez, the proposed terminal port, to the Yukon River north of Fairbanks. The company's hopes of quick federal approval and immediate start appeared to be dashed. A second bidding, a TAPL spokesman said, would follow the issuance of new federal stipulations, which would probably render the original bid specifications obsolete.

Trans Alaska Pipe Line did, however, continue efforts to expedite construction of an access or haul road, essential to the start of pipelining in the five northern sections, the most desolate stretch north of the Yukon River over the mountains to Prudhoe Bay. In fact, the road's status would be the most prominent project issue throughout 1970 and 1971. In early February, the Associated Pipe Line Contractors Inc., Tulsa, and Green Construction Co., Des Moines, were issued letters of intent by TAPL for 370 miles of haul road construction. /42 TAPL could hardly begin pipeline construction on the northern sections without it.

Environmental groups and Alaskan Indians were deeply distressed by the haste and single-mindedness with which TAPL pursued its objectives. To environmentalists, the Alaskan north was a fragile wilderness which was likely to be destroyed by standard pipelining processes. A new engineering science, Arctic pipelining, was required if producers intended to deliver their oil and protect the Alaskan frontier at the same time. As for the Alaskan native groups, they demanded compensation for state appropriation and private development of their ancestoral lands. If Alaska was to boom again, the Indians wished to share the affluence this time around.

Civil suits, at both the state and federal levels, were filed by various native and environmental groups from late February through early April 1970 to suspend activity until additional information on Arctic pipelining was known. The sponsors decided, in mid-March, to test the validity of the earliest litigation, a suit by five native villages and nearly a dozen individual Alaskan Indians barring Hickel from granting permits for either road or pipeline construction. TAPL formally requested its road construction permit from the Department of Interior, officially sympathetic to the project and governor of the land over which most the pipeline would pass. /43 Interior, upon counsel from Justice Department attorney Herbert Pittle, decided to withhold its decision on the road until after an April 1 hearing on the native claims dispute. The hearing was conducted, as scheduled, in Washington, D.C., before U.S. District Court Judge George L. Hart, Jr., who issued a preliminary injunction against Interior issuance of haul road or pipeline permits for 21 miles of the route claimed by a village. /44 A 43-month legal stalemate, between TAPL and its opponents, had begun.

The native claims issue, however, was quickly augmented by one of ecological concerns. Again in Washington, Judge Hart issued a second injunction against any permits for the haul road due to the considerable waivers of right-of-way law its construction would require. This injunction, issued in mid-April, came at the request of three major environmental groups: the Wilderness Society, Friends of the Earth and the Enviromental Defense Fund. As the Wall Street Journal observed prophetically:

> [Judge Hart's decision] raises the additional possibility that Interior will need Congressional authorization before it can grant all the land requested for the project. /45

TAPL, upon Hart's second injunction, agreed to suspend any attempt at construction until agreements could be reached with the native organizations, which desired project jobs and support contracts, and with environmentalists, over piping hot crude across the Arctic without damaging the wildlife or the permafrost. TAPS, of course, intended to bury its pipe, which had advantages with regard to fires, earthquakes, hunters careless with high-powered rifles and, of course, construction costs. Pipe elevation translated directly into substantially increased costs. Nevertheless, environmental scientists such as Angus Gavin, an elderly Canadian ecologist under ARCO's employ, predicted that as much as 65 percent of the pipeline must be elevated if substantial environmental damage was to be avoided. /46 It was one of many concessions TAPL would slowly come to allow.

Meanwhile, the Senate Interior Committee busied itself with legislation which would provide Alaskan natives with $1 million and seven million acres in return for the waiver of all future claims, including those now suspending the TAPS project. /47 It would be, as we shall see, the first of many incremental and abortive legislative attempts to break the legal stall. Genuine relief would come only after the 1973 oil embargo. All in all, TAPL's fait acompli had been foiled. It would, with its detractors await a new series of hearings, announced April 8 by Hickel, and a future much more uncertain than it had ever imagined. /48

The United States and Canada, for the first time since Manhattan's Northwest passage, locked horns on Arctic energy that same month. /49 Prime Minister Trudeau, in response to extensive American claims of jurisdiction over remote off-shore drilling sites, announced that Canada was preserving 100-mile-wide belts of Arctic Sea area from international mineral exploration as a pollution abatement measure. The claim, State Department analysts argued, would isolate nearly all Arctic waters from U.S. oil and gas exploration. The Canadians, they believed, were using the measure as leverage both to force the United States to reduce its own broad claims throughout the world and to reserve promising drilling sites for Canadian operators, such as Panarctic. In any event, State refused to "accept or acquiesce in" the Canadian action. Arctic oil and gas development was taking on an international complexion.

In Alaska, the initial optimism of the "boomers" had turned sour. Those who had braced only a year earlier for TAPS' construction found themselves apprehensive, even fearful. /50 A small army of construction workers, anticipating the project's start, streamed into Alaska, driving the state's unemployment rate up to 13 percent (nearly three times the national average) as TAPS stalled. Booths at state and regional airports discouraged prospective immigrants with pamphlets on the state's joblessness and the TAPS legal dilemma. Road construction companies, holding letters of intent awarded only months before, watched as $45 million worth of construction machinery and materials disappeared beneath snow piled high along Fairbank's highways. Local service industries, unable to pay for the enormous inventories they had accummulated for TAPS, sold out or went under. "It's ridiculous," remarked one Fairbanks businessman of the environmental groups' actions. "I say why don't we go down and get injunctions against using the freeways in San Francisco and Los Angeles."

Gov. Keith Miller, surveying the Alaskan disappointment, identified a novel strategy to begin road construction despite legal barriers and even while the litigation lingered on. /51 Under an obscure 1884 act, states were permitted to grant road rights-of-way over federal lands not reserved for other purposes. Miller, by exercising his rights under the act, could theoretically substitute state for federal authority. The option was enabled only after Hickel, sympathetic with developmental objectives, lifted his "freeze" on project preconstruction activity the previous December. "It is absolutely imperative that we dispense with the red tape and get on with the opening of the permanent highway to the North Slope," Miller told reporters. "The road will be among the most important elements in both the development and conservation of the Arctic, and reliable year-round surface transportation is a necessity."

Hickel's endorsement of Miller's strategy alienated him from other leading energy officials in the Nixon administration, who, as agents of the national government, felt compelled to support the federal court decision. /52 This group included John D. Ehrlichman, domestic affairs advisor to the president, and Russell E. Train, once Hickel's deputy secretary and, during this period, chairman of the President's new Council of Environmental Quality. Train argued that a road should not be built until the pipeline route was firmly established--a position supported by Sen. Mike Gravel (R-AK), who remained uncommitted to the TAPS. Hickel insisted, on the other hand, that "the pipeline route is flexible enough" to go wherever the road ends up.

In June, Miller asked the state legislature for $120 million to build the 350-mile highway from the Yukon River, north of Fairbanks, to the North Slope. Construction funds, he said, would later be reimbursed to the state by the TAPL, once legal barriers were lifted from its desired route. The "catch," Miller admitted to lawmakers, was that there was no guarantee that the pipeline would be permitted to parallel the road. When pressed, the TAPL balked at assuring fund reimbursement regardless of eventual routing. As a spokesman explained: "Our interest in that road is wholly and solely contingent on the pipeline." Without an unconditional reimbursement pledge by the TAPL, Miller's request was quickly rejected in Juneau. His preemptive strategy too had failed.

Hamstrung by native and conservation group litigation and with the Miller plan foiled, TAPL was left with little to attend but internal organizational matters. In August, the eight Prudhoe Bay oil companies formally incorporated their North Slope activities as the Alyeska Pipeline Service Co., thus abandoning their system of administration through inter-company committees. /53 Alyeska, Indian for "great land," would be led by Edward L. Patton, previously an Exxon refinery chief. Among Alyeska's first announcements was to advise the public that its proposed pipeline, originally estimated to cost $900 million, was now listed at $2 billion. Exxon, in Autumn 1970, reappraised its Northwest Passage tanker alternative but, by October, its directors reached the same conclusion they had reached earlier: it was too expensive and, when compared to overland options, too risky. /54

The gas coalitions, after announcing their proposed routes and study intentions, occupied themselves with feasibility assessments as, 1970 passed into history. In late July, NWP's C.G. Herrington, an Exxon subsidiary vice president, told reporters at a Toronto planning session that at least 20 trillion cubic feet (Tcf) must be assured in the Prudhoe Bay reservoir before his group would commit resources to the project. /55 The well's reserves, he added, would be known by the following summer, when the NWP's $12 million study concluded. The Mountain Pacific group, after a year of investigation and deliberation, remained very uncertain over its pipeline plans. /56 Mountain Pacific, unlike NWP and Trunk North, focused its initial effort on wells in the Fort Liard area, in the southwestern corner of the Northwest Territories, rather than in Alaska. With the Canadian fields much smaller, if more accessible, reliance upon them for project economic viability was very questionable.

In late 1970, Blair's Trunk North group significantly strengthened its prospects by adding three new American members to its team. First, in mid-August, the Northern Natural Gas Co. (Omaha), a major U.S. distributor in the American heartland, was added to the alliance. /57 Herbert Sampson, a Northern vice president and leading functionary of Northern's Canadian subsidiaries, announced that his firm would host Trunk North's 900-mile pipeline segment from Empress, Alberta, southeasterly across the northern plains to North Branch, Minnesota. Trunk North and Northern, he explained, had been discussing its plans with both the U.S. Federal Power Commission (FPC) and the Canadian NEB.

Four days before Christmas, Trunk North announced the addition of the other two firms to the coalition: Columbia Gas System (Wilmington) and the Texas Eastern Transmission Corporation (Houston). /58 Perhaps Trunk North's most serious original deficiency had been its absence of clear U.S. marketing and transmission arrangements, a deficiency highlighted by the NWP's powerful American connection. Although NWP, with its three Prudhoe Bay producers, was still clearly the odds-on favorite to win and build a line, Bob Blair was emerging as a persuasive salesman and, accordingly, Trunk North as a serious challenger.

Canadian interest in Arctic pipelining, continued to increase. In April 1970, TFNOD, in its second report, reasserted its position in favor of Northern pipelines. /66 This time, however, it emphasized the importance of oil and gas as a bargaining chip in United States-Canadian trade relations. Canada, the report implied, should not surrender its energy without getting, as a nation, something as valuable in return.

The TFNOD strategy, insofar as it diminished development opportunities, proved unexceptable to many Canadian officials and business leaders. They would mix politics with business only if Northern oil and gas opportunities were not jeopardized. On May 12, at the initiative of Gerry Stoner, the Canadian minister of Transport, representatives of all

major federal departments with interests in Arctic energy development met to "set out [the] philosophical stance" of the government. /67 Predictably, there was a strong pro-pipeline ideology.

A Mackenzie Valley pipeline, they agreed, would be in the national interest and general guidelines for such a project should be established for the convenience of prospective contractors. In August, the guidance - "Preliminary Guidelines for Northern Pipelines" - was released. It set conditions under which northern pipelining would be considered acceptable and enabled study groups, such as the NWP and Trunk North, to focus their research. Francois Bregha, a Canadian journalist analyzing the Stoner panel's pro-pipeline decision, finds that attention was centered on immediate economic benefits derived from construction instead of long-term environmental effects or native claims issues. /68

The same month, the Canadian NEB, as noted earlier, decided to increase it gas export allowance to the the United States by 50 percent. The increase, the government argued, should be contingent upon American willingness to raise its oil export allowance for Canada, particularly if the Prudhoe Bay fields were as rich as suspected. But, as the Albertan gas bubble grew, Canadians faced an increasingly intractable public policy dilemma. The United States represented a natural market for excess Canadian gas: reliable, convenient and profitable. It would serve to absorb large Canadian surpluses which might otherwise be lost.

Some Canadian government and industry officials feared that Canadian insistence on public policy which tied gas exports to oil imports could easily backfire. Too much pressure might encourage increased American import of Mexican gas, at the expense of Canadian contracts, and discourage prospects for any trans-Canada overland gas/oil pipeline. Eventually, in the 1980s, Canadian reserves would grow so large that gas marketing considerations would overwhelm any oil supply concerns. In the meantime, however, Canadian leaders hoped to negotiate the thin line between export opportunities and national energy policy goals in its relations with the United States.

For the Alyeska group, 1971 would be another disappointing year. TAPS opponents, native groups and conservationists, proved resolute and resourceful. Quite often, the major effect of litigation is to stall decision rather than facilitate it. Opponents understood that their suits bought time - time to bargain with the sponsors and time to recruit political and civic allies. Time, to Alyeska, was literally money; with each week, TAPS became more expensive and correspondingly less feasible.

TAPS received a predictable, if short-lived, boost in mid-January, when the Interior Department, now under secretary-designate Rogers C.B. Morton, issued its draft environmental assessment of the line and recommended all necessary federal clearance. /70 This preliminary statement was part of the new environmental review procedure required by the National Environmental Policy Act (NEPA) of 1969, passed after a Union

Oil well exploded off the coast of Santa Barbara, California, creating a 235,000 gallon oil slick which destroyed the area's ecological system. The second TAPS injunction, the one brought by the conservation groups, was issued in part because of DOI's initial failure to study possible environmental impacts of the TAPS plan. The draft assessment, which discussed the concept only generally and excluded engineering design details, admitted TAPS' ecological risks, even predicted an acceptable level of oil spillage. However, these risks, it concluded, would be offset by benefits to the nation's economy and energy security.

The draft report, to be used as a frame for public comment in the second phase of environmental assessment, found its critics. James W. Moorman, a Wilderness Society attorney, objected to the lack of TAPS specifics in the draft. "If you don't know what you're commenting on," he wondered, "how can you comment?" A Sierra Club spokesman offered the same complaint: "We're limited to saying we're for a pipeline or against it in a general way Without specifics how can we make informed judgments?" Alyeska argued that precise engineering designs and technical details were proprietory and not necessary in assessing of the plan's basic worthiness.

The replacement of Hickel with Morton as DOI's secretary was believed to have a profound effect upon the department's demeanor. Hickel's TAPS strategy, DOI's officials explained, was to submit the Alyeska construction plan to the Alaskan chief of the Bureau of Land Management, doubtless sympathetic to local concerns, who would make the agency's determination on design, routing and environmental issues without public comment. Morton directed DOI's back to the formal environmental impact statement (EIS) process, an approach more consistent with the views of department's career personnel. Public hearings on the draft assessment were scheduled for midFebruary in Anchorage and Washington, with the record remaining open until late March for written comments.

Patton, Alyeska's president, predicted that DOI's draft assessment would be supported by the hearings. /71 If so, he felt Judge Hart would lift the environmental injunction in spring and Congress, by early summer, would then pass a native land claims bill. Construction of the haul road, he concluded, would then begin in late summer. He would prove a poor oracle. TAPS, he told reporters, could not survive a long legal battle. Cost, originally set at $900 million, had already risen "significantly" above that level. If litigation continued, the TAPS proposal would be abandoned and "the [Alyeska] companies would certainly have to give strong consideration to building a pipeline through Canada or using icebreaking tankers" like the Manhattan through the Northwest Passage.

On February 15, a day before the draft assessment hearings began, Train, chairman of the president's Council on Enviromental Quality, told the nation on NBCTV's "Meet the Press" that "we aren't satisfied completely" that TAPS "represents the best [Alaskan oil delivery] alternative

available to us." /72 Train's "we" presumably meant the President's new White House energy advisory apparatus, a contingent without which TAPS could not long survive.

The draft assessment hearings and written comments, in fact, did not favor DOI's judgments. Two influential commentaries were offered by the U.S. Department of Defense and the U.S. Environmental Protection Agency (EPA), headed by William D. Ruckelshaus. The Pentagon criticized DOI's narrow interpretation of environmental impacts, its reliance on stipulations rather than enforcement and its failure to consolidate the varieties of federal oversight. /73 The U.S. Army Corps of Engineers, Defense officials claimed, would require many more specifics on project design analysis, specifications, construction procedures and time schedules.

Ruckelshaus, in his comments, stated that TAPS, as proposed, "may cause avoidable environmental degradation and pollution" and recommended its postponement pending further study, which should focus on specific TAPS engineering intentions and other transmission alternatives. /74 Not all commentaries, however, counseled delay. Both OEP and the FPC, a central governmental actor in the upcoming Alaskan gas pipeline scenario, recommended TAPS approval, due to the recent decline in domestic oil and gas reserves, with increased Interior oversight. /75

Morton, as the hearings closed and the agency comments filtered in, found himself "a long way from deciding that this pipeline is the way to do it [develop and transport Alaskan oil]." /76 DOI's reinitiated studies on a trans-Canada pipeline, through the Mackenzie Delta area, and on ice-breaking tankers.

The Canadians, hearts set on northern pipeline promotion, seized the opportunity which DOI's TAPS decision provided. In early March, Mitchell Sharp, Canada's External Affairs minister, told parliament that talks between the United States and Canada over a trans-Canada oil pipeline, originating on Alaska's north slope, would begin immediately. /77 A week before, J.J. Greene, minister of the Canadian Department of Energy, Mines and Resources, met with top U.S. energy officials in Washington, D.C. Canada, he told them, opposed the TAPS proposal, fearing transit oil spills along its Pacific coast, but was "in a position to move with considerable expedition" on a trans-Canada pipeline proposal. /78

During the talks, Canadians continued to raise the environmental specter of TAPS while officials extolling the virtues and simplicity of a Mackenzie Valley route. The Alyeska producers, who had earlier assessed the Canadian alternative, remained unmoved. Preliminary governmental support, they had just learned the hard way, was easier pledged than delivered. An international dimension imposed on Alaskan oil development, the partners concluded, would only complicate the situation. On March 24, Greene and Chretien, the Canadian DINA minister, were told to expect no applications from the Prudhoe Bay sponsors. The Canadians left for home without promise but not without prospect: the longer TAPS remained suspended, the more attractive a Canadian overland route appeared.

It had been, to this point, very difficult to assess the White House "position" on the TAPS initiative. Clearly, there was new energy and environmental concern at the very highest level, the Domestic Council's energy subcommittee. On one hand, Lincoln and Commerce Secretary Maurice M. Stans, a close Nixon advisor, emphasized national energy needs and Alyeska's ability to overcome technical obstacles. On the other, top environmental agents, such as Train and Ruckelshaus, had been free to raise environmental concerns, which effectively scuttled Alyeska's hopes for a fast start. In spring 1971, a more consistent White House view of TAPS, one more favorable to the project, may have begun to emerge. Nixon, in early April, endorsed an Interior plan for settling Alaskan native claims. /79

The plan, which was quickly introduced for Congressional consideration, would (1) grant exclusive native title to 40 million acres of Alaskan land for mineral development and (2) pay a new native energy development corporation $500 million, over a 20-year period, for investment purposes. It was, all in all, a rather substantial offer, a price which the U.S. Senate, in its deliberations on the same topic a year earlier, was loathe to pay. Native groups called it a "positive and constructive contribution toward achieving a just settlement," although they had set goals of 60 million acres, $500 million over nine years and a small percentage return on royalties. Sen. Henry Jackson (D-WASH), chairman of the Senate's Interior Committee, expected bill approval by mid-June. The House was considered less enthusiastic and, in terms of allowance, less generous.

Morton, by early summer, had become more receptive to the TAPS proposal, no doubt in response to the new White House advocacy. Furthermore, Alyeska officials, working with DOI's personnel, had addressed a major criticism of engineering design by allowing more elevated pipe, particularly in the permafrost regions. /80 DOI's planned to go to court with its final environmental assessment, based upon the hearings, comments and subsequent TAPS design amendments, in October in order to lift the environmental injunction. Congress, however, failed to agree on the native compensation issue. Morton, on June 21, extended his suspension on the Alaska lands disposition. /81

In July, the U.S. Justice Department, at the request of DOI and the White House, asked a federal court in Washington to transfer the environmental injunction to Alaskan jurisdiction. /82 The change in venue was to accommodate the state of Alaska and other affected groups, which found it a burden to participate in Washington hearings. An underlying motive, as the Wall Street Journal observed, was more compelling: "it [DOI] undoubtably could expect a more sympathetic hearing on a plea for terminating the injunction, because of the state's strong desire to cash in on its oil bonanza." Judge Hart, who had issued the two injunctions, ruled against the change in venue on August 1. /83 He determined that the shift would impose disadvantages on conservation groups, headquartered in Washington, that would be much greater than the new convenience which the Alaskan parties would enjoy. "The interests of justice," he concluded, "might well be defeated by a transfer."

As litigation persisted, Alyeska did, as Patton said it would, sincerely investigate a variety of transmission alternatives, some quite bizzare. /84 "If there's anything that makes sense, we want to know about it," observed E.W. Wellbaum, an Alyeska vice president. There was no shortage of ideas, but a premium on good ones. An Illinois man proposed a huge overland tunnel, through which small tractors would pull carts loaded with oil barrels - and Alyeska officials gave him a hearing!

There were more obvious alternatives, including the extention of the Alaskan Railroad beyond Fairbanks or truck hauling over a new highway spur to the north slope. These were hardly real options. To move oil at a profitable rate, 126 trains runs would be required to travel from Prudhoe Bay to Valdez each day. The highway proposal implied an eight-lane expressway, jammed with some 60,000 semi-trailer oil trucks - almost as many as the existing U.S. commercial fleet. General Dynamics proposed nuclear-powered submarine tankers, crusing beneath the Arctic ice pack. (It would later refine this proposal for gas transmission.) Both Lockheed and Boeing investigated air transport, but it proved even less feasible than overland schemes. Airships were suggested, but quickly abandoned. One can image prospects for their stability when caught, ladened with oil, in Arctic winds blowing at 100 miles per hour! The only serious options were the trans-Canada pipeline, which involved the same technical problems as the TAPS plan but with solution at at twice the cost, and the ice-breaking oil tankers through the Northwest Passage, which would certainly bring even greater environmental and Canadian opposition. The case was becoming clear: if America wanted Alaskan oil now, a variation of the TAPS plan was the only apparant and acceptable way to deliver it.

By October, DOI and Alyeska officials appeared to have reached agreement on the final environmental assessment. "It looks as though Alyeska knows everything we want," Morton explained, and, for the first time, "we have a basic agreement from the investors that they will build according to our stipulators." /85 He expected to announce the final report before Christmas, although it would not be issued until March 20 of the new year. Alaskans were growing increasingly impatient. New Governor William A. Egan, in November, announced plans for state purchase of pipeline rights from Alyeska, after meetings with some of its officials. /86 It appears unlikely that Alyeska ever seriously considered selling its entire operation, although it may have entertained the idea with hopes of somehow drawing the state, with its revenue-generating capacity, into the project financially.

For the gas consortiums, 1971 was a year of study, reorganization and learning - learning primarily from the unhappy TAPS experience. NWP central research focus was its $3.5 million Canadian test facility, located at Sans Sault Rapids on the Mackenzie River. /87 Its principal task was to study pipeline stability through various states of permafrost, a composite of soil, rock and other earth material which remains continuously frozen. A short 48-inch thick pipe length was monitored while hot and cold air passed through it. Data on construction methods,

materials and equipment were also being collected. Trunk North, now also known as the Gas Arctic Systems Study Group, GAS, announced in July that it had set 1973 as a goal to begin construction of its Arctic pipeline project indicating that its technical studies confirmed proposal viability. /88 Its major experimental center was at Vanier Island, also in the Mackenzie Bay retion, where enginners concentrated on Arctic channel crossings. /89

It was probably inevitable, despite very fundamental differences, that the two largest gas transmission companies in Canada, TransCanada and AGTL, would lead their respective consortiums, NWP and Trunk North, toward partnership in Arctic gas development. Given the monumental scope of the pipeline project, it may have been unreasonable to expect either to organize or finance such an undertaking without the other. Both TransCanada's Horte and AGTL's Blair understood this and left their options open. Still, one cannot minimize the differences any NWP/Trunk North merger would have to broach, particularly those related to ownership, financing and pipeline routing. /90

Horte and NWP, apparently, were more realistic on ownership. Horte, in NWP's July 1970 statement, acknowledged the necessity of foreign equity participation on the Canadian segments. Costs, edging up to over $1 billion for the Canadian part alone, were simply be too high for Canadian financial markets. In terms of ownership, NWP recommended making Canadian sections "available" to Canadian financiers but would not prevent U.S. companies from investing. Blair, on the other hand, insisted in a Trunk North position paper on both Canada-based financing, despite fund-raising in U.S. capital markets, and Canadian equity ownership for its corridor. He feared what Peacock described as "Exxon-dominated tactics" - tactics intended to extend producer influence over any new, substantial energy deposit in the world. /91 Additionally, common carrier status, to Blair, was essential for the pipeline to maintain a genuine neutrality.

Routing, and the use of AGTL's facilities, was another obstacle. NWP was aiming at a U.S. East Coast market while Trunk North had designs on the Pacific Coast and central United States, where AGTL and other consortium members traditionally serviced customers. Blair, throughout subsequent merger meetings with NWP, continually promoted the idea of split marketing: West Coast shipment through upgraded existing lines in the U.S. Pacific Northwest as well as new pipeline construction across the North Central plains southeast into the U.S. Midwest. Blair also wanted Arctic gas, wherever it was destined, to flow through his AGTL system. This would allow him a degree of control over the NWP giants. He feared, that his usual prerogatives would be significantly reduced in any union with NWP and this, perhaps above all, reduced his enthusiasm for alliance.

Horte, recognizing AGTL's geographic centrality to Arctic gas development, did make several attempts to recruit Blair and AGTL for NWP. Blair was not unreceptive, despite his philosophical disagreements with the NWP approach and the limits merger would impose on his managerial

FIGURE 1-4: The Canadian Arctic Gas Pipeline Ltd. (CAGPL)

A List of Consortium Members

Canadian Firms
- TransCanada PipeLines
- Canadian National Realities
- Canadian Pacific Investments
- Alberta Gas Trunk Line

Foreign-controlled Canadian Subsidiaries
- Gulf Oil Canada
- Imperial Oil
- Shell Canada

American Firms
- Atlantic Richfield
- Columbia Gas Transmission
- Michigan Wisconsin Pipe Line
- Natural Gas Pipeline Company of America
- Northern Natural Gas
- Pacific Lighting Gas Development
- Standard Oil Company, Ohio
- Texas Eastern Transmission
- Humble Oil and Refining

Oficially Formed: June 8, 1972

Source: Peacock, Donald, People, Peregrines and Arctic Pipelines (Vancouver: J.J. Douglas Ltd., 1977) pp. 47-8.

discretion. Blair knew that NWP, with the addition of the Prudhoe Bay producers possessed the critical mass required to gain approval, with or without AGTL's involvement. NWP was still the leviathan, with a collective influence AGTL could never hope to match.

Horte and Blair first met to officially discuss merger on August 5, 1971. Apparently their common ground was sufficient to arrange a larger meeting of major Trunk North and NWP dignitaries in Toronto on August 27, 1971. A variety of amalgamation meetings followed, in Houston, Denver, Omaha, Calgary, Toronto and finally Chicago. In Toronto on February 1, 1972, Trunk North received NWP's conditional approval on the following points:

- Markets in the western United States would be utilized;
- NWP's previous preference for "express" piping through Alberta would be deemphasized so AGTL's traditional customers might have access to the gas;
- The system would be a "neutral" carrier, available to all producers and consumers who wished to use it;
- AGTL was given a chance to make its case for an ownership share;
- The principal of maximum Canadian control and ownership, for its sections, was accepted. /92

The actual language on these provisions was so vague and general as to defy authoritative interpretation - perhaps precisely the NWP intent. In Chicago on April 5 and 6, 1972, negotiations apparently reached a critical point, a point indicating union was eminent. On June 8, 1972 in Houston, after over 10 months of negotiations, the merger was finally consummated. With the entry of four new interests, three large oil companies and a Canadian investment firm, the preliminary roster of the new Canadian Arctic Gas Pipeline Ltd. (CAGPL) was complete. (See Fisure 1.1) Arctic Gas was, TAPS notwithstanding, the largest and most influential union of major pipeliners in history, a fitting coalition to build the world's most expensive private construction project.

While the gas pipeliners were coming together, the two governments, over the TAPS issue, were splitting apart. Canadian officials, unable to attract Alyeska, hoped to use an impressive array of 30 studies, commissioned at a cost of $43 million, and gas export strictures to persuade American lawmakers that the overland Mackenzie Valley corridor was both the technically superior and politically expedient choice. /93 In late November, implicit threat became explicit action: the Canadian NEB dismissed three export licenses, totaling about 2.66 trillion cubic feet (Tcf) of gas from American gas distributors. /94 The board, as justification, claimed that Canada was facing a projected 25-year gas deficit, due to rapidly increasing domestic consumption. American gas spokesmen found the rationale suspect, particularly in light of very recent Canadian efforts to arrange more long-term export contracts.

Statistically, American oil and gas reserves rose in 1970, reversing a short trend toward decline. But this was, in terms of immediate supply, a phantom resurgence. The reversal was enabled by the

Prudhoe Bay discovery, which represented known but extremely remote and essentially unavailable deposits. Actually, accessible gas, by mid-1971, was becoming increasingly more scarce. /95 This was due, most energy experts agreed, to artificially low rates imposed by the FPC on the interstate market. Producers, due to low rate ceilings, were unable to charge fees sufficient to provide incentives for seeking or developing marginal or remote wells. "Frankly," as W.W. Keeler, chairman of Phillips Petroleum Co., remarked, "there is no incentive for wildcating [bold exploration]. Until there is a break in these FPC regulations, I don't think we'll spend a lot of money trying to find gas." /96 The 1970-71 gas shortage was both real and imagined: real in its limitation of available reserves but imagined in that other sources, considered too expensive to develop under current pricing arrangements, did exist.

American lawmakers were caught in a pinch between consumers, determined that gas prices should remain low, and producers, who would not increase reserves until prices were allowed to rise. Canadian and Mexican gas, when reasonably priced and readily available, had relieved this dilemma somewhat. Pipeliners and distributors, to meet customer needs and very modest market expansion, began to import cheaper foreign gas instead of paying more for domestic exploration and development. Consequently, hard decision on federal gas policy could be kept off the Congressional agenda.

The NEB's new tough line on exports changed this. Pipeliners and distributors were now left with fewer alternatives to domestic purchase and, with reduced exploration and development, little alternative at that! Congress was, as the Canadians had hoped, on the spot again. But pressure would not immediately translate into action. The natural gas issue, apart from modest annual rate adjustments, would not addressed comprehensively until the Natural Gas Policy Act of 1976, three years after an Arab oil embargo shook the nation.

Canadian policy toward the United States, on the face, grew increasingly complex and contradictory. On one hand, American export gas applications were denied due to a newly projected long-term energy deficit. On the other, the Canadian Arctic and Albertan gas bubbles continued to expand with new discoveries. In late February 1972, for example, Gulf and Mobil Canadian affiliates, in a joint exploration effort, discovered a gas desposit at the mouth of the Mackenzie delta, about 45 miles north of Inuvik. /97 Imperial Oil had, earlier the previous year, also found gas in the delta. The same month, three large American gas transmission firms, including a corporate cousin of CAGPL's Texas Eastern Transmission, invested $30 million in an Arctic energy search by Dome Petroleum Ltd., a Canadian energy consortium, in return for 75 percent of all gas rights. /98 Later in 1972, Panarctic made its second significant find on Melville Island, bringing known reserves in the Arctic Islands alone to 15 Bcf of gas. /99

Panarctic, no doubt to the Canadian government's delight, proposed a 2,500-2,700 mile pipeline across the "Canadian shield" from the Mackenzie River delta to eastern Canadian markets. /100 The line would follow

the Northwest Passage coastline to the District of Kewatin, then turn south along the Hudson Bay through Manitoba and finally head southeast across Ontario into Toronto. Charles Hetherington, Panarctic president, believed it would take three years to built and, at capacity, would move three Bcf of natural gas daily. It was, all and all, an extremely vague proposal, perhaps drafted more to stir new American interest in the trans-Canada oil route than to provide a viable independent gas alternative. It would not succeed. In the meantime, Donald S. Macdonald, Canada's new minister of Energy, Mines and Resources, claimed that Canada would soon entertain bids for pipeline construction down the Mackenzie Valley, the nation's preferred route and chief logistics challenge to TAPS. /101

TAPS remained in its state of suspended animation. Sen. Ted Stevens (R-Alaska), in January 1972, told colleagues that that project, now estimated at $2 billion, would rise to $3 billion if delays continued much longer. /102 The Indian claims suit had been dropped after Congress, the previous December, passed the Alaska Native Claims Settlement Act. /103 The act granted $500 million, 40 million acres and a two percent overriding royalty on mineral leases - rather handsome compensation. With a single stroke of his pen, Nixon transformed 60,000 pipeline adversaries, the Alaskan native groups, into 60,000 pipeline advocates.

The TAPS environmental litigation, however, still languished in federal court. Judge Hart had made several rulings on the case, including the denial of a Wilderness Society appeal for additional public hearings on the Alyeska plan and refusals to accept intervention requests from Anderson and the Canadian Wildlife Federation, but its status remained essentially the same. /104 Hart had, from the beginning, had stated the presentation of an acceptable final environmental assessment, conducted as a formal environmental impact statement (EIS), would break the current impasse. The injunction, now enforced, would then be lifted.

DOI, by March 15, had twice missed its deadline for TAPS EIS completion. Finally, seven days later, the statement was released and presented to Morton for consideration. /105 Whereas the initial assessment had been short on analysis and long on recommendations, including a crucial one urging TAPS approval, the new six-volume, $9 million EIS study proved just the opposite: it pondered proposal provisions, assets and drawbacks, with great deliberation but without, in the end, offering a determined recommendation.

The TAPS EIS was rather anti-climactic. By Spring 1972, the TAPS plan and had already been carefully examined. Furthermore, the policy principals - first Morton, and later Nixon - had already formulated rather definite opinions on TAPS, based upon information essentially the same as that found in EIS documentation. The basic question of whether the TAPS benefit, oil, was worth the risks, possible environmental damage,

remained highly problemmatic and reconcilable only in a political context, despite the voluminous EIS inquiry. Judge Hart, of course, was responsible for assuring proper administrative procedure rather than assessing the specific merits of the TAPS case, and his duty now appeared complete. William Pecora, an DOI under secretary who supervised the TAPS environmental study, explained that Morton would require "at least 45 days" to make a determination on the permits Alyeska was seeking. The sponsors allowed a cautious optimism. Two ARCO officials, chairman Robert O. Anderson and vice president Louis F. Davis, believed that, given the expected injunction waiver and an expeditious appeal process, TAPS construction could begin as early as March 1973. /106

The environmentalists, however, refused to relent. On May 9, the three plaintiffs issued a 2,000-page technical rebuttal to the TAPS proposal. /107 The TAPS EIS, the study claimed, was a "passive statement that blandly accepts at face value the fundamental premises" provided by the oil companies. Its stipulations, despite their number, were "so vague and imprecise as to be meaningless." Since Alyeska had acquiesced to the elevated pipe demands, criticism now focused on pipe breakage and the massive spill which could result from it. Harry Brandt, chairman of the mechanical engineering department at the University of California at Davis, charged that Alyeska's steel pipe, now stacked in great heeps in Alaska, was "a common low-alloy mild steel pipe" lacking the extraordinary properties one would generally require in such a transmission system.

On May 11, only three days later, Morton announced his intention to grant the Alyeska permits. /108 In a five-page statement, he admitted the trans-Alaska Pipeline System "will involve some environmental costs and some environmental risks," and such costs and risks would be involved "regardless of how the [Alaskan] oil is transported and over what route." The determining aspect, he added, was *need*: America, particular its West Coast, "vitally needs" Alaskan oil "as promptly...as possible." Morton said his decision was based upon several considerations, including the following:

- America is experiencing an increasing domestic oil supply deficit, which indicates that the United States, without the Alaskan resource, will be importing as much as half its required 20-25 million barrels of oil by 1980.
- The trans-Canada route, preferred to TAPS by some environmental groups, "would cause greater actual damage to terrain and biotic habitat...[since] it would be longer and would traverse a greater area of permafrost."
- The TAPS plan, despite "a greater pollution risk from possible earthquakes" and the chance of tanker spills along the Pacific Coast, will be subject to close governmental oversight with regard to final design, construction and eventual transport.
- A U.S.-Canadian transport agreement, necessary for the trans-Canada proposal, was determined "impractical at this time." Expedition, simplicity (avoidance of international complications) and costs favored TAPS.

It is certain that Morton did not make his decision apart from key cabinet colleagues or in isolation from the White House. Treasury Secretary John B. Connally, in particular, argued that TAPS approval was essential to retain oil and gas industry confidence in federal oversight. Oil and gas firms, he advised the President, had already invested $2 billion in Alaskan exploration and development. They need a clear sign that the federal government would, if not foster their efforts, not intervene to foil them. The permit grant could be that signal. Charles E. Spahr, Sohio's chairman, surely spoke for his Alyeskan partners when he characterized Morton's decision as a "major step forward in the realization of a much delayed dream..." of bringing Alaskan oil to mainland markets.

Macdonald, from Ottawa, officially expressed his government's regret over the Morton decision. /109 That, however, was not the end of it. David Anderson, M.P., chairman of the Parliament's Special Committee on Environmental Pollution and a leader of the Liberal Party, visited Washington that June with the findings of his 30 Arctic region studies. /110 He was not pleased with his meeting with Morton. The Interior Secretary, Anderson told the House-Senate Joint Economic Committee soon after, showed no interest in his reports, which he believed demonstrated the superiority of the trans-Canada route.

Morton, also addressing the committee, denied spurning the studies, but admitted that his interest in them was qualified by their findings, which he found incomplete or inconsistent with the TAPS EIS research. /111 The trans-Canada proposal, he said, had a variety of technical deficiencies that were underemphasized by the Canadian government. He listed several. First, the Mackenzie Valley plan included 12 river crossings at least a half mile or more in length, with only one such crossing along the TAPS route. Such crossings increased the chance of environmental spills. Second, the Canadian suggestion of a shared or paralleled gas pipeline route was discounted by engineers, who believed the nature of each line would demand different routing considerations. Third, the Canadian route required massive amounts of gravel, which was not always be available in the immediate area.

The major drawbacks, however, remained time and money. Additional preliminary activities, such as an international agreement required for the trans-Canada line could delay construction, Morton warned, "as much as seven [more] years," and despite Canadian pledges of expedition. Furthermore, producers knew well that the trans-Canada line would cost as much as twice the TAPS line. The price was simply too high.

This suggests a final consideration, one not raised by Morton but implicit in his attitudes and actions. Pipeline routing, by the Nixon administration's classical liberal philosophy, was essentially a private sector decision which, apart from environmental and other ancillary concerns, was beyond the proper jurisdiction of governmental affairs. If the sponsors objected to the trans-Canada route, as they clearly did, the government would not force it upon them. Government, in this

context, had an obligation to assess the choice, in accord with its legal responsibilities but, once those legal criteria were met by the applicant, had no authority to determine choice.

American governmental self-restraint was not easily understood by the Canadian Liberals, who took, by comparison, a more progressive view of federal power and appeared much less bound by a tradition of limited government. Such misunderstandings would be placed in high relief later during U.S.-Canadian gas negotiations over an Agreement on Principles and during project delays during the early 1980s. The Canadians, from the start, conceptualized the issue with "national interest" considerations at its heart. While such factors were also important to Nixon administration officials, they were seen as less compelling than the rights of the oil developers to operate, within the confines of the law, however they pleased.

Morton's decision on the Canadian initiative was understandable, but his management of it appears rather awkward and short-sighted. S. David Freeman, a former energy specialist with the White House Office of Science and Technology (who would later chair the U.S. Tennessee Valley Authority), told the same congressmen that Morton's pro-TAPS decision was made without consideration for Canadian negotiations which would be required for a corresponding gas line. /112 He observed:

> The problem with that [Morton's] view is that the natural gas pipeline must cross Canada and we have not exactly enhanced its prospects by spurning the Canadian Government's overtures to cooperate on an energy corridor across Canada for both natural gas and oil pipelines.

Could Americans hope to gain foreign approval for their trans-Canadian gas pipeline, Freeman inquired, after refusing to entertain a Canadian partnership request for an oil transmission system? It was an important and troubling question, and one which would not be answered for another four years. While, in economic terms, the Canadian gas bubble may have suggested an affirmative reply, a political assessment seemed to indicate that the opposite was quite possible. As the Canadians saw it, their hat-in-hand appeal to American officials had been unceremoniously denied. They must have wondered, as they had before and would many times again, why the U.S. federal government did not act with greater resolution during the controversy.

The Morton decision, of course, was only an indirect means to an end. And, as TAPS proponents would learn, the end was still not within reach. Morton's determination legitimated the TAPS EIS, the official environmental assessment that Judge Hart required to lift his injunction. The conservationists, however, had appeal prerogatives. As long as an appeal pended, DOI was still not free to issue the necessary right-of-way permits which Alyeska required for haul road and pipeline construction.

On August 14, Hart entertained pleas for additional public hearings and a more comprehensive study of the trans-Canada route from the three conservation groups. /113 But he would not entertain them long. The following day, he lifted his injunction, now two years old, barring DOI issuance of TAPS construction permits. /114 DOI, Hart wrote, had complied with the provisions of the National Environmental Policy Act (NEPA) and was now within its authority to grant the permits. The conservation groups immediately announced their plans for an appeal, which Hart believed would eventually rise to the U.S. Supreme Court before resolution. In the meantime, TAPS remained high and dry.

The NWP and Trunk North consortiums, now precariously allied as Canadian Arctic Gas Pipeline Ltd. (CAGPL), would not draw closer than arm's length. Their alienation from one another was understandable, if not fully explained, by their practical differences on project ownership, routing and financing. NWP, as noted earlier, was largely an American initiative, led by Horte, the TransCanada executive, and W.H. "Deke" Mack, of Michigan Wisconsin. It had, as Peacock described it, a kind of "multinational mentality," a world view dominated by resources and markets rather than national political boundries. /115 This mentality has, at times, promoted ruthless, exploitive practices and policies, the worst kind of behavior one generally associates with irresponsible "private government." /116 Several oil industry analysts, such as Robert Engler and Anthony Sampson, have illustrated the many unhappy consequences of such thinking and behavior for democratic governance and international diplomacy. /117 However, such a "multinational mentality" may be benign, in object and effect. While it may tend to deemphasize assessment in the national "public interest," circumstances do not always require that such an assessment be made. The view does not always represent a powerfully sinister and negative force its critics sometimes charge.

NWP's mission was to drill, process and transport Arctic (not "American" or "Canadian") gas as efficiently as it could for consumers, American or otherwise, who needed it and were willing to pay for it. Those consumers happened to be American, but NWP would most likely have been equally enthusiastic over an Arctic pipeline venture to Quebec, had demand there justified it. It may be misleading to suggest, as Peacock does, that NWP was, by word or deed, anti-Canadian. It was, rather, pro-energy development.

To a multinational firm, government often looms large as a constraint. NWP, by most accounts, understood that it had to work within politically defined constraints rather than work to subvert them. The doctrine of "enlightened self-interest" suggests that firms have incentives to cooperate with government and act in accord with public preferences. Corporate ventures, like the NWP, may try to minimize considerations of state (the less "red tape," the faster it can accomplish their objectives), but they generally recognize the importance, in terms of their own long-run welfare, of attending to them. NWP did not intend to "raid" Alaskan gas, "ravage" the Arctic wilderness or "exploit" the

Canadian people. Such behavior would have, in the end, underminded their objective. NWP, by available evidence, hoped to develop the Arctic gas resource and transmit it to market, with a modicum of governmental regulation but certainly not irregardless of it.

Blair's orientation was very different and yet his incentives may have been very similar. The differences arose from the fact that AGTL, under Blair's stewardship, had come to realize power as a governmental agent. Provincial government was the very means of AGTL's success. As government had been the instrument of rather than an obstacle to AGTL development, so would it facilitate his designs for Arctic gas. The Canadian government, in assessing the competing project alternatives, would not without justification tend to favor AGTL, with its public-oriented concepts. "Canadianization" of the Arctic gas issue, played very handsomely into Blair's hands. First, he and AGTL had corporate stake in major Canadian ownership. AGTL, as a Canadian leader in gas transmission, would doubtless control a large Canadian share of the project, given his firm's impressive record and dominance in the West. Second, a Canadian financing stipulation would limit the influence of his major challengers: the Prudhoe Bay gas producers and major American transmission firms, led by Michigan Wisconsin. Finally, routing through existing facilities did, as Blair often argued, enable diversion to Canadian markets if need be, but it also did so through Blair's AGTL network.

Blair, was able to marry self-righteousness with self-interest. Here, one may suggest similarity between his incentives and those which drove the NWP. Like the American group, Blair can be seen as jockeying for comparative advantage, a larger grant of authority to effect his own vision of Arctic energy development. By "nationalizing" the gas pipeline issue, he tended to cast himself as a Canadian champion and the NWP members as either turncoats, as in Horte's instance, or carpetbaggers.

The effect of Blair's strategy was to accentuate the traditional prejudices and insecurities which Canadians feel in their relations with the United States. These cannot be understated, particularly in French Canada. Gerald Clark, in his celebrated narrative of U.S.-Canadian relations, characterizes Canada as the "uneasy neighbor." /118 Mitchell Sharp, a noted Canadian statesman who would later become Commissioner of Canada's Northern Pipeline Agency, remarked: "We can never change the fact that we are situated next to a giant. All we can hope to achieve is that Canadians will be given a freedom of choice, so they will never be overwhelmed by American goods or culture." /119 "Canadians," journalism Richard Starnes once wrote, "are generally indistinguishable from the Americans and the surest way of telling the two apart is to make the observation to a Canadian." /120

Nowhere is this Canadian insecurity as pronounced as in economic relations. Walter L. Gordon, Canada's long-time Minister of Finance, argued persuasively in the mid-1960s that Canada's economic dependence on the United States, which was and remains considerable, threatened its

political independence. /121 He was the father of the "Canacianization" movement, which has taken firm root in the hearts, minds and politics of many of his countrymen. "Canadianization," in the late 1960s and 1970s, transformed into a concerted Liberal Party program of limiting foreign investment and fostering domestic industry, commerce and natural resource development. Its casualties, of course, would often become the very firms which fostered Canadian economic development: American business and industry, through its Canadian subsidiaries.

"Canadianization" has led to accusations of betrayal and an endless frustration for American executives north of the border. As Clark writes:

> The American investor has a virtually unanswerable grievance, for he is confronted by a diffuse kind of nationalism: rather illogical at times, emotional and intuitive, but nonetheless real - in its own way as difficult for Americans to penetrate as it is for English Canadians to understand what all the unease is about in Quebec. /122

The malaise is compounded by the fact, illustrated by various studies conducted by the Canadians themselves, that Canada could most likely have never developed as quickly or completely, or continued to maintain her high level of economic prosperity, in isolation from American corporate expertise, investment pools or markets. /123 American business was the engine of Canadian development. Of course, this fact does not alieviate the central thrust of Gordon's argument. Many nations have been willing to sacrifice a degree of prosperity for economic or political independence, as our own history suggests. The Canadians appear no different. Despite our revolutionary tradition, we appear unable to fully appreciate Canadian apprehensions over our extensive presence in their economy. In the Arctic gas instance, Peacock claims this is particularly true of Mack, whom he believes never understood Blair's nationalistic urge. Of course, one may also suggest that Mack and his NWP colleagues believed, at least with some circumstantial evidence, Blair was manipulating the national issue primarily for his own advantage.

In any event, Blair could not mesh with CAGPL. Observed Horte:

> Blair never wanted to join our group [NWP as CAGPL]. We took the initiative. We negotiated with him for months, and it was finally the U.S. companies in his group that said to him 'join or else' and he had to. It's awfully clear to me...that Bob Blair really came into the union in the first instance kicking and screaming." /124

Blair, was not ignored once inside CAGPL. He was named interim cochairman, along with Horte and Mack, and was allowed to appoint his own man, AGTL vice-president Gordon Walker, as CAGPL engineering chief. These concessions, Peacock argues, were token. The NWP coalition was

interested in coopting and neutralizing Blair, he insists, not cooperating with him. NWP would soon consolidate control, as W.P. Wilder, a Torontonian investment dealer, became CAGPL chairman and Horte himself was elected president. Walker would resign as soon as he learned that Williams Brothers, NWP's engineering consultants, continued to effect CAGPL operations over his head through a subcontract administered through Horte and Mack. Furthermore, Blair's provision for an independent Environmental Protection Board, headed by Trunk North's Carson H. Templeton, was short-lived. The NWP group, as well as many of Blair's own Trunk North allies, were understandably reluctant to allow an advisory board veto discretion over pipeline routing and construction techniques, particularly a board led by a Blair loyalist. The board would retain some influence, but its decisions would become nonbinding.

The fundamental, perhaps irreconcilable, differences in perspective between the NWP coalition, led by Horte and Mack, and Blair, were highlighted once again. The NWP group saw Canada essentially as a transmission bridge, where as developers they would pay their tolls - adhere to law, pay taxes, abide environmental restrictions - but retain essential control of the project. After all, it was their money carrying their gas to their American markets. Canada merely provided a conduit, a corridor for which it would be generously compensated. Blair, on the other hand, could not isolate his perception of the project from larger issues: "Canadianization," American dominance in Canadian energy development, future Canadian gas requirements and, perhaps most important, AGTL's central role in Arctic gas development and Canadian gas distribution. The Canadian link was essential to Arctic energy development, Blair had always argued, and Canada should utilize its pivotal position.

Blair, however, would soon learn that the Canadian position was not as secure as he once believed. On December 4, 1972, the El Paso Natural Gas Company announced its was considering the construction of an all-Alaska 790-mile natural gas pipeline approximately along the proposed TAPS route south through the state. /125 The gas would be liquefied at a southern Alaskan port for shipment in new tankers to West Coast cites. Upon arrival, it would be regasified and transported through existing pipeline systems to American consumers. El Paso executives estimated project costs at $2 billion for the Alaskan pipeline and liquefaction facilities and another $1 billion for new tankers and terminal enhancements, both in Alaska and along the U.S. West Coast route. (The CAGPL price had risen to about $5 billion by December 1972.)

The announcement was made by Howard T. Boyd, El Paso's chairman, in an address to the Anchorage Chamber of Commerce. Boyd acknowledged that his plan would most likely share the judicial fate of TAPS, now under high court appeal, as it would most likely share its right-of-way across Alaska. But he expected a favorable ruling. Costs, he added, "should be comparable to the cost of gas delivered by an all-overland route." El Paso, as contrasted with the CAGPL and stillborn Mountain Pacific

alternatives, did not require foreign alliance and concentrated all benefits - construction, production and sales - on American territory. Alaskan businessmen, at least, were impressed.

Boyd, apparently, was as long on optimism as his firm appeared short on energy. "The evidence shows El Paso is a sick company," concluded Beverly C. Moore Jr., an analyst with Ralph Nader's Corporate Accountability Research Group, after a 1972 study of the firm. Although mainstream Wall Street analysts found that appraisal too harsh, El Paso, the nation's fifth largest firm utility firm in terms of operating revenues, stood only 29th in profits and 49th in 10-year growth rate earnings.

By late 1972 and early 1973, the nation once again experienced a natural gas shortage and Boyd, El Paso's chief, began looking anywhere, everywhere for gas. His search carried him to Alaska, to Paris, to the Soviet Union. He closed a deal for two Bcf of Algerian liquified natural gas daily, although facilities would not be ready for at least three years. He had several meetings with Soviet political officials over a proposed Russian purchase. Technical meetings would follow, and gas was expected to flow in 1978 or 1980. These maneuvers promoted long-run efficacy but did little for El Paso's immediate shortfall.

Perhaps Boyd's most troublesome problem rest with El Paso's purchase of the Pacific Northwest Pipeline Corporation some 15 years earlier. /126 The U.S. Justice Department, since that purchase in 1957, had tried without success to divest El Paso of Northwest on anti-trust grounds. Litigation seemed endless; the U.S. Supreme Court alone issued eight rulings on the case. El Paso, spending $15 million in attorney fees, held tight to the pipeline, which comprised 18 percent of its system and operated in the lucrative Pacific Northwest corner. The network would be essential to El Paso's new Alaska gas pipeline project as a West Coast distribution system. As destiny would have it, Northwest would play a crucial role in the ANGTS project, but under new ownership and by a trans-Canada route.

In Alaska, El Paso had already spent $750,000 for its preliminary studies and was now about to invest $11-$12 million for more detailed designs of its trans-Alaskan pipeline and liquefied natural gas (LNG) shipment scheme. Such research was certainly required. LNG tanker transport ("floating pipelines," as they were called) was still a highly uncertain and volatile technology. /127 It was not until October 1964 that the first commercial LNG shipment, from Algeria to England, occurred aboard the Methane Princess, the world's first LNG tanker. By 1972, only 14 tankers were operating, most having been manufactured in France.

The tankers, at nearly $100-$500 million each, were twice as expensive as oil tankers. They contained five or six spherical containment chambers, composed of either aluminum or a nickel/steel alloy. Joint welding and related insulation must be given particular attention for a gas leak, at minus 259 degrees Fahrenheit, would shatter the standard

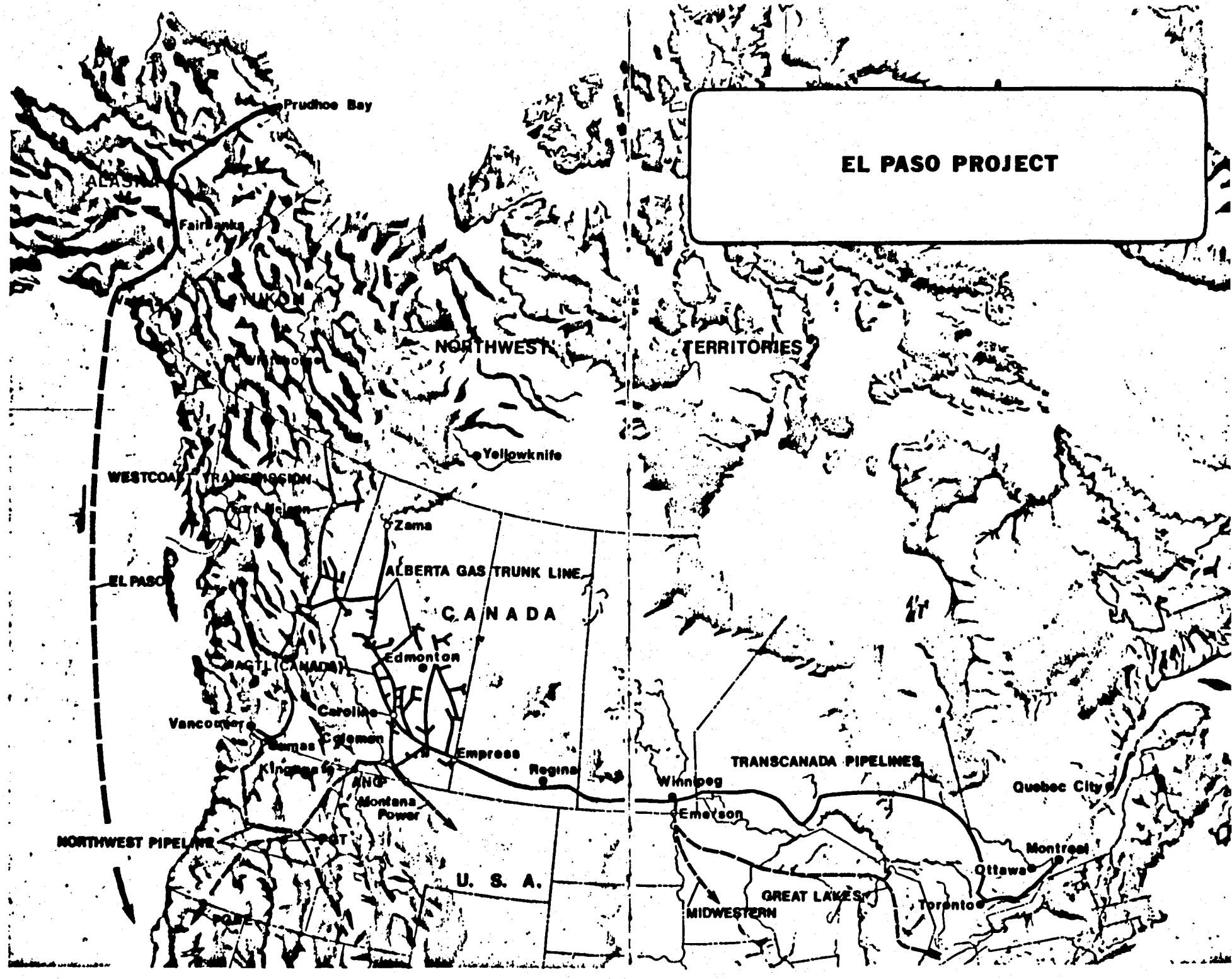
ship hull like steel striking glass. The ships travelled fast, about 20 knots, to minimize gas vaporization, estimated at about .3 percent daily. The LNG process was more elaborate than either oil or gas transport: liquefaction plants were required to freeze the gas; ocean tankers, with the special chambers and cooling systems, were needed to maintain the liquid and elaborate facilities were then necessary for storage and regasification.

The Interior Department's Bureau of Mines, after a series of tests, found LNG hit water with a "bang," a flameless explosion. Shell Oil, in its own tests, discovered that when methane content is above 40 percent (LNG usually contains about 80 percent methane), only a small "bang" occurs. Subsequent government research confirmed this finding. The mixture usually vaporizes too quickly to do much damage, although a contained cloud of gas, under some circumstances, could provide a major hazard. In 1944, for example, a Cleveland LNG facility leaked gas into the city's sewerage system. A hugh explosion and fire followed, after someone ignited the gas cloud by tossing a lighted cigarett into a sewer. One hundred and thirty people were killed.

The Canadian government, as 1972 closed, worked closely with the CAGPL over project routing and financing. /131 The government team, led by Canadian Finance Minister John N. Turner, had persuaded CAGPL to chart its pipeline from Prudhoe Bay southeast along the Beaufort Sea coast into the Mackenzie Delta, then down the Mackenzie River valley along the Yukon/Northwest Territories border to Norman Wells, a small Indian village midway down. Governmental insistence on this route would prove most ironic, after the 1977 decision on valley suitability rendered by Justice Thomas Berger. Nevertheless, the valley route was encouraged at this time by the delta/Arctic Island oil and gas discoveries and by Trudeau's April 1972 announcement that Canada would finance the construction of an all-weather highway through the valley as soon as possible. /132

Beyond Norman Wells, the line's route was still at issue. Blair, of course, wanted it to pass southwest through the northeast corner of British Columbia into western Alberta, where it would be integrated with the AGTL network and service the U.S. Pacific west coast. NWP, intent on serving eastern and midwestern customers, preferred a southeast route over the northeast tip of Alberta, through the heart of Saskatchewan and across the southwest edge of Manitoba into the United States.

Trudeau's Liberal government, which had lost its parlimentary majority in the autumn 1972 national elections, suffered in part because of its bald pipeline advocacy. One may suggest two reasons for this. First, the perennial specter of "creeping continentalism" (U.S. domination of Canadian domestic affairs) emerged again, this time in the energy development context. This impression was surely reinforced by Canada's "hat in hand" appeals for U.S. consideration of a trans-Canada alternative to TAPS. Canada, the general argument went, was exhausting her energy resources so the American oil conglomerates could sustain American markets and turn high profits.


EL PASO PROJECT
Prudhoe Bay
Fairbanks
YUKON
NORTHWEST
TERRITORIES
Whitehorse
Yellowknife
WESTCOAST TRANSMISSION
Fort Nelson
Zama
EL PASO
ALBERTA GAS TRUNK LINE
CANADA
NOVA (CANADA)
Edmonton
Vancouver
Caroline
Kingsgate
Empress
Regina
TRANSCANADA PIPELINES
Winnipeg
Quebec City
Emerson
Montana Power
NORTHWEST PIPELINE
GT
U. S. A.
Montreal
Ottawa
GREAT LAKES
MIDWESTERN
Toronto

Second, as The New York Times wrote:

> For 15 years, Canadian governments beat the drum for "opening up" Canada's northern storehouse of minerals and fuels. Times have changed. Environment has become a household watchword. People are beginning to worry about scarcity of resources. /133

Canada, like the United States, had come into environmental awareness. The pristine North, its land and its people, became a particular focus of this awareness. Oil and gas development was now shown to exact a particular price in terms of environmental quality and native life. The Trudeau government, in championing northern pipeline development, was seen as soft on the emergent environmental issue.

Trudeau clearly wished to develop the North, but the perception of his government as accommodating to American-based business or soft on environmental concerns does not appear entirely consistent with reality. The conditions for northern pipeline development, for instance, stipulated:

- Majority Canadian ownership
- Only gas determined by the NEB to be beyond Canada's long-run energy needs could be exported
- Arctic environmental damage must be minimal
- Financing provisions must avoid dramatic imbalance of the exchange rate

Nevertheless, Liberal officials in the government sensed that they must establish a public image as tough bargainers with the Americans and determined environmental advocates at home, particularly insofar as the North was concerned.

Disunion and Polarization

NWP and Trunk North continued their precarious CAGPL alliance through 1973. It was, in Peacock's words, a most "uneasy union." /134 Both groups, however, found encouragement in an announcement in late January by Gordon Walker, CAGPL's soon-to-reign engineering director, that after nearly two years of trials at the Sans Sault Rapids facility on the Mackenzie River, tests indicated that a subterranean pipeline could carry chilled natural gas in the Arctic without damaging the fragile permafrost. /135 A buried gas pipeline would require refrigeration but tended to alleviate many environmental concerns and avoid much additional expense associated with an elevated line.

Panarctic, prime sponsors of the vague "Canandian shield" oil pipeline plan, led the formation of a new four-member gas pipeline study group, the Polar Gas project, in February 1973. /136 Panarctic had made several substantial discoveries in the Arctic Islands: at Hecla and Drake Point on Melville Island; on King Christian Island and along Kristoffer Bay on Ellef Ringnes Island. Official reported that discoveries constituted about 10 Tcf. - about a third of the reserves necessary to financially justify a pipeline from the islands. The Polar Gas prospect was sufficiently intriguing to attract Verne Horte and TransCanada Pipelines, Canada's largest transmission firm. Preliminary environmental and engineering studies - an aerial photography, mapping and permafrost evaluation - began immediately. The group's major engineering obstacle, of course, would be island-to-mainland crossings.

The TAPS litigation, dismissed at the Circuit Court level in August, found its way to the U.S. Circuit Court of Appeals in Washington. Conservation groups were not giving in. They knew that as long as their case was on the books, permit issuance by DOI was impossible. They would stall with hopes that a new strategy would surface. TAPS advocates, of course, expected an immediate dismissal of the suit, based upon DOI's compliance with NEPA and Judge Hart's prior determination. But, by early February 1973, that was not to be. Alyeska officials, targeting a July 1973 construction start after the Hart decision, had to slip that date again by six months. /137 "Now we're telling ourselves that there won't be any construction in 1973," remarked E.W. Wellborn, an Alyeska vice president.

On February 9, the conservationists had found their new strategy - or rather, it had discovered them when the U.S. Court of Appeals stunned project proponents by reinstating the injunction against DOI issuance of federal land use permits. /138 The court, in a 6-1 decision, denied Judge Hart's contention that NEPA provisions were the basic issue and turned instead to the Mineral Leasing Act of 1920. That act, the court ruled, limited the right-of-way grant by law and only new Congressional action could amend it. As the Wall Street Journal reported:

> The majority opinion, authored by Judge J. Skelly Wright, held flatly that the Interior Secretary [Rogers C.B. Morton] can't grant such right-of-way "until Congress decides to amend" limits set in the Mineral Leasing Act of 1920.

An aide to Alaskan Gov. William A. Egan characterized the decision, from the TAPS perspective, as "the worst possible opinion that could have come." Just as the TAPS group had complied with the rules of the game, the game had changed. Nevertheless, pipeline advocates, well accustomed to surprise and disappointment, tried to maintain optimism. "...We'll just have to get the law changed," Sen. Stevens told reporters as he promised to lead an amendment effort to that end. Patton, Alyeska's president, expressed sorrow that a mere "technicality" could further delay the pipeline. ARCO President Thornton F. Bradshaw was resolute: "We are disappointed in the court's decision but we remain confident the pipeline will be built." Now, it was the government's turn to appeal. Six of the seven appellate judges concurred with Judge Wright's right-of-way determination and a majority refused to even address the environmental issue.

Under the circumstances, the U.S. Supreme Court was not likely to reverse. The decisive battle over act amendment would then switch to the Congress. On the Capitol Hill, TAPS proponents appeared to have the clear advantage. First, Congress had already, with the native claims act, demonstrated its support for an Alaskan oil pipeline, of which TAPS was the leading plan. Second, oil and gas shortages the past two winters had enabled energy supply issues to eclipse environmental concerns. Finally, Stevens, a popular, capable legislator, had made TAPS a private crusade. He was able to enlist several key allies, including Sen. Jackson, chairman of the Senate Interior Committee. Most congressmen, recognizing Stevens' expertness on Arctic energy development and granting him some prerogative for a "home state" project, were inclined to follow his lead. Rep. Les Aspin (D-Wis.), a long-time TAPS opponent, saw this as another opportunity to promote TAPS alternatives, including the Canadian Mackenzie Valley pipeline. Oil and gas shortages, he pointed out, were in the Midwest rather than the West, where the TAPS oil was headed.

President Nixon, as he had on the native claims issue nearly two years before, decided to intervene once again on behalf of TAPS. /139 His intervention took two forms. First, the Justice Department was directed in early March to prepare a brief for the high court requesting an expeditious ruling and arguing that Secretary Morton's authority allowed him to grant extended right-of-way privileges. Second, Congress, at Nixon's request, was given legislation "that will," Morton explained, "remove any doubt about my authority to issue permits necessary for construction of [pipelines]...transmission lines and other facilities that must cross federal lands."

The Supreme Court, on March 19, 1973, agreed to expedite its consideration of the TAPS case. /140 All briefs, it ruled, must be filed with the court by March 28. The Wilderness Society and its conserva-

tionist allies, flushed with their victorious appeal, did not contest the administration's request. They were, after all, now holding the high ground and quite anxious for a final decision.

Determination came on April 3, when the Supreme Court refused to review the appellate court's ruling on the TAPS right-of-way or lift its construction ban. /141 Refusal to review was made, as it often is, without explanation. Sohio and ARCO stocks both dropped overnight, the former by $8 to $95.25 a share and the latter, by $4 to $74. Frank N. Ikard, president of the American Petroleum Institute, argued that "delaying development of these valuable resources isn't only a blow to the economy of Alaska but also means that the U.S. must spend more of its dollars overseas to get enough oil and natural gas to keep the U.S. economy operating properly." "The Supreme Court action," Patton observed, "makes it necessary for Congress to amend the Mineral Leasing Act of 1920 to clearly establish the authority of the Secretary of the DOI to permit use of land outside the permanent 54-foot right of way."

By April, five different pipeline bills were circulating on the Hill, with the leading version sponsored by Jackson in the Senate. On April 10, the Senate Interior Committee began, under Jackson's hand, fashioning the senator's bill. It became increasingly complex. In the end, it would establish rights-of-way for all oil and gas pipelines, canals, roads, railroads and electric transmission lines crossing federal land. /142 The bill would allow Interior to amend rights-of-way standards for certain projects, such as "transportation and utility corridors" (combinations of transportation and transmission facilities) like that envisioned by TAPS. Specific provisions granted the TAPS right-of-way exception and authorized the President to begin "early [treaty] negotiations" with the Canadian government on a proposed trans-Canada gas pipeline. /143 Jackson, on May 8, won committee approval for his bill. He knew, however, it would be far more difficult to gain passage in the Senate chamber than in the Western-dominated Interior committee.

Since its inception, TAPS had been seen as a Western energy development project. Westerners, like Jackson, Stevens and Gravel had taken the initiative whenever legislative action was required to facilitate TAPS while others, concentrating on their own regional needs, were generally willing to trade their votes. The issue, as oil and gas became more scarce in the 1970s, took on a more nationwide dimension. Shortages in the New England, North Atlantic and Midwestern states, resulting in large part from regulatory disincentives for domestic drilling and higher prices for imported energy, became particularly acute. By 1973, an Alaskan oil pipeline had taken a much broader significance. The trans-Canadian Mackenzie Valley route, aimed at Midwestern markets, began to interest some non-western congressmen who had previously, in deference to their Western colleagues, endorsed TAPS. /144 This interest was encouraged by environmental groups who preferred an overland pipeline to a TAPS-like tanker plan. On July 13, a coalition of Eastern and

Midwestern senators, effectively barred from committee action, forced a bill onto the floor which aimed to restore consideration of the trans-Canadian proposal. /145 It was defeated, however, 61-29.

Jackson's bill was considered three days later. Gravel and Stevens, despite Jackson's protests, proposed an amendment to bar any subsequent environmental litigation against TAPS. Jackson wanted TAPS and the new rights-of-way legislation, but he would not alienate conservation groups to get it. Nevertheless, on July 17, the Jackson TAPS bill, as amended, passed unanimously, 86-0. /146 As the vote might indicate, the dissident Eastern senators did win some consolation, a second amendment which authorized congressional veto of any export of Alaskan oil and gas. Naturally, the Prudhoe Bay producers were not enthusiastic about the export stipulation. Japan was the ideal logistic and technological market for Alaskan oil, as the Pacific route was direct and Japanese refineries were capable of treating the high-sulfur Alaskan crude. But, after continual defeats and delays, TAPS advocates would take victory under any terms.

On March 5, 1973, Howard Boyd's 15-year struggle to retain the Pacific Northwest Pipeline subsidiary in his El Paso Natural Gas Company finally ended. /147 The U.S. Supreme Court, after a series of previous rulings, approved a plan for El Paso's divestiture of perhaps its most lucrative holding, a $290-million gas transmission and delivery system which serviced 11 million consumers in seven western states. El Paso had argued that, in the midst of a national energy shortage, Northwest was better managed as a large, consolidated concern where economies of scale could be utilized in gas discovery, production and distribution. The court, however, agreed with the Justice Department that "the energy crisis cannot be solved by recision of remedies to correct violations of the anti-trust laws."

The 4,000-mile system, the court announced, was to be given over to the Colorado Interstate Corporation (CIC), which offered the strongest of seven ownership applications. However, CIC itself was purchased shortly before the ruling and the court, rather than reinvestigate the Colorado firm, decided to award purchase rights to the runner-up applicant, the Apco Group. Apco, a consortium of Western gas development and supply firms, was led by a Texas oil and gas corporate wildcatter, John G. McMillian. McMillian would become with Bob Blair, the most central and pivotal figure in the ANGTS story.

The final requirement for transfer was sale price determination, to be supervised by the U.S. District Court. In February 1974, the FPC approved a $343 million sales agreement and the Northwest Pipeline Corporation was born. /148 McMillian, now in control of the largest gas transmission system in the Pacific Northwest, was destined for a crucial role the Alaska gasline sweepstakes as the strategic focal point of western delivery. He would become increasingly active in northern pipeline development, but it is ironic that he came across his project stake almost by chance, through CIC's disqualification.

A month after the El Paso divestiture decision, the CAGPL coalition made its first public commitment to an Arctic gas pipeline. Verne Horte, TransCanada executive and CAGPL consortium president, announced his firm's intentions to file an application for a certificate of public convenience and necessity with the Canadian National Energy Board in Ottawa and to seek right-of-way approval across the Yukon and Northwest Territories from the Department of Indian and Northern Affairs (DINA). /149 A companion application, he noted, would be filed with the FPC and the DOI in the United States. The "biggest unknown factor," Horte claimed prophetically and no doubt with the American TAPS experience in mind, would be federal review and approval time. "Allowing 18 months for this from the time of filing, the earliest that we could anticipate approvals would be during the first part of 1975. If we are lucky, this could provide for the assembly and delivery of materials during the summer and start construction during the winter of 1975-76."

In late June, CAGPL released its routing plan. /150 It proposed a 48-inch diameter pipeline from Alaska's Prudhoe Bay area west to the Mackenzie Delta, then south through the Mackenzie Valley corridor to the James River Junction, about 60 miles northwest of Calgary. There, the line split into two 42-inch diameter sections. The east segment would drop southeast to Empress, Saskatchewan, where it would tie into an existing TransCanada pipeline. An additional segment would run further south into Montana, where it would be consolidated with new American pipelines. The west segment would flow south to the British Columbia-Idaho border, also connecting with American lines.

The pipeline, as Blair had insisted, did generally utilize existing networks. Unhappily, one system it did not fully utilize was AGTL's. The routing plan was neatly integrated with Horte's TransCanada midcentral facilities and coordinated with American transmission plans for the midwestern United States. However, it intended to parallel, not traverse, Blair's AGTL's pipelines. The AGTL system, the plan stated, would only be used as "spare capacity," and supply Blair's Albertan customers only when "feasible and economic." Blair had believed his network would be granted centrality. Instead, it was relegated to "relief valve" status. This was, as he saw it, a major violation of the NWP/Trunk North agreement.

The basic differences between NWP and AGTL - ownership, financing and routing orientations - had continued without resolution. The NWP faction began to increasingly assert its numbers, money and influence within CAGPL's executive counsels. Blair believed his merger conditions, supposedly settled at the February 1972 meeting in Toronto, were being compromised one by one. Canadian ownership, for example, was officially encouraged but, as Blair had feared, essentially relegated to secondary concern. Furthermore, he was uncertain about how much of the line that AGTL could control. Pure Canadian financing for the $1 billion Canadian leg had always been, so to speak, a "pipe dream." But CAGPL, by Blair's reckoning, took the easy path to major American bankers and investors rather than expending the effort to mobilize Canadian money markets.

Now, the CAGPL routing scheme, emphasizing the "express" line through Alberta, proposed to alienate AGTL's system and customers. For Blair, this was the last straw. Although he would retain AGTL's membership in CAGPL until Autumn 1974, he began considering his options and outside the consortium.

Trudeau's decision to strengthen his government's position in relation to the United States and to appear more sympathetic toward environmental protection took concrete form in 1973. In January, the Canadian Department of Indian and Northern Affairs (DINA) announced its intention to establish a Mackenzie Valley Pipeline Inquiry. The inquiry, to be led by a special commissioner, would to assess both environmental and socio-economic impacts of northern pipeline development. That summer, Canada announced the possibility of reduced gas exports in 1974, due to a projected shortage in British Columbia for the upcoming winter. /151 Finally, that September, Canada levied a 40-cent a barrel crude oil export tax which hit the United States particularly hard.

Trudeau found support for his new maneuvers from Eric Kierans, an influential economics professor at Montreal's McGill University and former cabinet minister. /152 Kierans, an advocate of supplementing Canada's resource-based economy with new manufacturing initiatives, wondered: "Why should [Canada] jump on the idea of building the pipeline?" Since the leading plan, sponsored by CAGPL, envisioned an "express" line essentially bypassing Canadian markets, he reasoned, "let the Americans make the suggestions and concessions if they want the goods." "Concessions," as he saw it, would include compliance with a variety of Canadianization measures, including those requiring substantial Canadian ownership shares in new corporate ventures.

Trudeau, however, would not altogether welcome Kierans, who had challenged him for the party leadership in 1965, as a policy bedfellow. For despite his export limits and taxes, the prime minister apparently wished to encourage energy transmission projects in Canada, with full realization that substantial American involvement and some environmental damage was inevitable. /153 Although Kierans' Liberalism was generally too bold for Trudeau, it had its attractions. Canadianization provisions targeting American business, Trudeau had learned, were among very few issues capable of unifying the splintered Canadian electorate. Trudeau, to survive, could not ignore them.

In late June, the Canadian government released a study, "Energy Policy of Canada - Phase One," which suggested that large energy exports were necessary to utilize the nation's resource capabilities. /154 Oil and gas firms, the study indicated, required access to the U.S. markets as incentive to develop frontier areas in northern Canada and the Arctic. Canada, it concluded, could not go it alone. Furthermore, the study determined that Canada could export between the current six per cent and 12 per cent of the United States' gas requirements without risking domestic shortage until the year 2050. It was, of course, music to Trudeau's

ears, after the sting of the previous anti-Liberal campaign which accused the prime minister of squandering Canadian energy to pacify American corporate interests.

On October 6, 1973, two Arab armies, Egyptian and the Syrian, invaded Israel and launched the "Yom Kipper" war. Two days later, in Vienna, representatives of the leading oil companies had planned to meet with officials from the Organization of Petroleum Exporting Countries (OPEC) to negotiate a new oil price structure. Timing, from the Western perspective, could not have been worse.

On October 19, after the United States denied an Arab appeal to renounce Israel, OPEC declared an immediate 10 percent production cutback and a total oil embargo of the United States and The Netherlands, Israel's two major suppliers. The Saudis, traditionally America's leading ally among the OPEC nations, instigated the actions. It is also somewhat ironic that the embargo's administrator would be Aramco, the Arabian-American Oil Company, a consortium of leading American oil companies operating within the Arab nations. On October 20, Aramco, in accord with OPEC directives and in order to forestall oil nationalization threats, suspended oil shipments to the United States.

The OPEC offensive, of course, would not end there. On November 17, OPEC and the companies met again in Vienna to sort out the dramatic changes which had just occurred. Aramco oil executives tried vainly to convince OPEC ministers that a sudden surge in pricing, such as the one they had just allowed, would stir expansion of alternative sources (coal, nuclear, natural gas) and discourage long-run consumption, with a net effect of reduced revenues. The ministers were unconvinced. Aramco, as the they saw it, had long manipulated the market for its own steady, but substantial, profit, a profit which was in large part rightfully theirs. In an oil-oriented world short of oil, they could almost arbitrarily set a price and modulate supply to ensure it.

The silver lining to the Middle East oil storm, as one might suspect, was that TAPS finally had the impetus which Congress required to rid the project of its remaining obstacles. Admittedly, it was of little comparative consolation to Exxon and ARCO, big Aramco investors, but it was something.

After July 17 passage of the Jackson bill in the Senate, the House Interior Committee began immediate consideration of alternative TAPS bills. /168 Seven days later, it approved and reported a bill which prohibited any further court delays of the trans-Alaska pipeline system on environmental grounds. There was, however, little unanimity. For two days, pipeline opponents, led by Rep. John Dellenback (R-Ore.), tried without success to delete language which eliminated any further review under the NEPA. TAPS proponents, who maintained a 20-16 edge in committee voting, also won an amendment stipulating that any non-environmental litigation against TAPS must be filed before a United States district court within two months of the present bill's enactment. The House bill,

in the end, was less ambitious than the Senate's Jackson bill; while it exempted TAPS rights-of-way from the Mineral Leasing Act of 1920, it did not attempt to establish new standards for the variety of roads, transmission lines and utilities crossing federal land.

On August 2, the House, by a 356-60 margin, endorsed the committee's bill. /169 But again, the bill did not pass without opposition. Dellenback's floor appeal, to add provisions allowing NEPA-based litigation under certain circumstances, fell short, 221-198, in the key vote. The House also defeated an amendment by Rep. Morris Udall (D-Ariz.) and Rep. John Anderson (R-Ill.), which would have required a six-month comparative study of TAPS and the trans-Canada plan. TAPS critics, like those in the Senate, did gain passage of a provision which forbids export of Alaskan gas without express consent of the Congress - a stronger limitation than that secured in the other chamber. The bill was directed to conference committee, where members of each house would try to reconcile their differences after the August recess.

The Wilderness Society, a leading anti-TAPS litigant, announced shortly after the House vote that it was disinclined, given recent congressional endorsements of the project, to continue its court battle. /170 The energy supply shortage, even before the Arab oil embargo, was becoming critical enough to rattle the conservationists.

On October 18, the day before the Arab embargo and after five weeks of haggling, congressional conferees reached agreement on a TAPS authorization bill. /171 The OPEC price increase, on October 6, must have encouraged decision. The committee draft, like both the House and Senate bills, granted TAPS rights-of-way exceptions and barred any future court challenges under NEPA. It revised the rights-of-way amendment procedure for more flexible determination of standards, similar to Jackson's provisions, but it did not explicitly state standards. It also provided guidance for negotiations with the Canadians on a trans-Canadian gas pipeline from Alaska. Conservation groups, particularly those which had for so long contested TAPS, were given 60 days to challenge congressional authority to deny subsequent lawsuits. Appeals, the bill stipulated, would be judged immediately by the U.S. Supreme Court. Now, only chamber confirmation and Presidential signature were required for the bill to become law.

The conference bill, however, encountered new resistence in the House. A few secondary regulatory provisions, unrelated to the pipeline project and added from the Senate version, came to dominate the bill's consideration. /172 One provision allowed the FPC to seek court injunctions preventing oil companies from engaging in suspected monopolistic practices. Another prevented the Office of Management and Budget (OMB) from tampering with questionaires which regulatory agencies wish to send to businesses. OMB director Roy Ash, ademantly opposed to the OMB provision, argued that Congress should not dictate by law relations between two executive agencies. Unless the provisions were removed, he threatened to press President Nixon for a veto.

Bill proponents, led by Jackson, held fast. On November 12, the House defeated a motion, 213-164, to return the bill to conference and and strip the regulatory provisions. Moments later, the chamber approved the conference bill, 361-14. The next day in the Senate, the bill was passed, 80-5. President Nixon, on November 16, 1973, signed Public Law 93-153, amendments to the Mineral Leasing Act of 1920 and authorization for the trans-Alaska pipeline system. /173 For three years and seven months, since early April 1970, TAPS had been frustrated by one obstacle after another. Finally, the stalemate was over; TAPS, long detained by law, now had legal blessing.

The enduring courtroom alliance of the Wilderness Society, the Environmental Defense Fund and the Friends of the Earth began to show signs of deterioration. Stewart Brandborg, the Wilderness Society's executive director, criticized the bill as "a tragic mistake" but refused to commit his group to further legal action. He, and his conservationist allies, would have, by the provisions of PL 93-151, but 60 days to decide.

Meanwhile in Alaska, state lawmakers were attempting to negotiate a taxation plan with the North Slope oil producers. /174 A previous tax proposal, suggested by Gov. Egan, so offended the oil companies that they decided to challenge it in court. The state, wishing to avoid another long and expensive court battle, decided to bargin. Alaska, for its part, substantially reduced a right-of-way leasing fee, abandoned a guaranteed tax "floor" and gave up its prerogative to purchase 20 percent of the pipeline project. Instead, the state enacted an additional 20-mill property tax on project-related facilities, to be shared in some instances with its municipalities. Aggregating all revenue sources, including a 20 percent royalty entitlement, the state could expect about $499 million each year from oil pipeline development alone. Egan, caught with everyone else in the throes of oil crisis and prospect, had not forgotten about the gas initiatives. Like most Alaskan developers, he was already lobbying hard for the El Paso trans-Alaska gas line plan, announced in December 1972. "When the fuel crisis hit," he remarked, "Canada arbitrarily abrogated contracts, raised prices and took advantage of the situation." /175 "In thinking about large volumes of gas, the security of the nation requires it [the gas pipeline] go through Alaska."

Shortly after the Arab oil embargo, President Nixon dispatched Love, his energy advisor, to discuss Canada's newly tightened energy export policies with Canadian Energy Minister Donald Macdonald in Ottawa on October 23. /176 The Canadian plan proposed reduced gas exports to the United States, due to a projected shortage in British Columbia, and a 40-cents a barrel crude oil export tax. (Canada was exporting about 1.3 billion barrels of oil to American markets each day - comprising the United States' single largest import source.)

The Love-Macdonald meeting may have represented a toughening of Canada's energy negotiating posture with the United States. Only six months before, U.S. officials had rejected all Canadian appeals for a trans-Canada oil pipeline - a denial not well received in Ottawa. Now,

with the embargo, the tables had turned. The pipeline slight was fresh on the minds of Canadian energy officials when Love approached them with a request for milder measures. This time, there was less sympathy. The age of automatic deference to American preferences, a fine art during the Diefenbaker years, was at an end. Canada would no longer decide its energy policy with the United States without more carefully assessing the consequences it might suffer. Hard, adversarial bargaining, particularly in pipeline negotiations, would become the new rule. Macdonald, after meeting with Love, told journalists the next day that the U.S.-Canadian energy relationship should remain stable. /177 Albertan oil and gas supply lines would remain open, he noted, as long as America was willing to deliver more of its oil to eastern Canada through the Montreal/Portland (Maine) oil pipeline.

In late January 1974, Trudeau announced that Canada would raise its export price of oil, effective February 1, from $2.20 a barrel to $6.40 a barrel (nearly a 200 percent increase) to align the price of Canadian oil with world market prices. /178 Later, in September, gas rates would rise 67 percent, from about 60 cents to $1 per thousand cubic feet (Mcf). /179 These were bold strokes, ones which an earlier Canadian Canadian prime minister may have been loathe to take without careful consultation with Washington. The "stable" U.S.-Canadian energy relationship may still be intact, but apparently America would have to work harder, and pay more, to maintain it.

On January 17, 1974, the Washington attorney for the TAPS environmental litigants - The Wilderness Society, Friends of the Earth and the Environmental Defense Fund - notified a federal district court that his clients would not challenge Congress's TAPS authorization act, passed the previous November. /180 However, Ann Roosevelt, a Washington representative of Friends of the Earth, said her organization would reconsider legal action if abuses occurred during pipeline construction, despite the act's ban on such litigation.

DOI Secretary Morton was at last free to issue departmental permits for rights-of-way over federal land, and he wasted little time in doing so. On January 23, he and representatives of the seven TAPS oil companies, signed the "Agreement and Grant of Right-of-Way for Trans-Alaska Pipeline." /181 The 27-page document, with assorted appendicies, established the basic stipulations which would govern Alyeska's project design, construction practices and use of federal lands. Alyeska would pay $105,000 annually for its 50-foot wide pipeline right-of-way 500 miles across the Alaskan frontier - a very small fraction of the legal fees required to acquire it. Additionally, the group would pay $12.25 million for the TAPS environmental impact statement and another $25 million for general federal monitoring, supervised by DOI. (The DOI, as the federal government's agent, and the State of Alaska had, on January 8, reached a cooperative agreement on federal and state oversight responsibilities.) The TAPS consortium found negotiations more difficult with the State of Alaska, apparently due to taxation issues. The Egan plan, discussed above, was modified slightly

and approved by the state legislature, but the producers still found its provisions extravagant. Nevertheless, after additional adjustments, it was also signed that spring.

On April 29, TAPS construction began. Engineers and highway crews began to roll out the 28-foot-wide gravel haul road which stretched 361 miles from Five Mile, at the Yukon River about 100 miles north of Fairbanks, to Prudhoe Bay. They would finish in five months. /182 Four days after the construction start, Alyeska authorized Fluor Corporation, the project's general contractor, based in Irvine, California, to begin construction on the marine-tanker terminal at Valdez, the TAPS treatment, storage and transport port in the Gulf of Alaska, and on several pumping stations along the 800-mile route. /183 The Bechtel Corporation, a large San Francisco engineering firm, had been engaged months before to attend logistics and planning matters. Several secondary contracts, mostly for site preparation, were also granted. In all, Alyeska authorized more than $1 billion in work.

DOI's chief project manager was Andrew P. Rollins, Jr., 55, a major general in the Army Corps of Engineers who resigned his commission to accept the pipeline position. /184 He would operate the field component of DOI's new Alaska Pipeline Office, designed to coordinate permit and enforcement requirements for Alyeska. He and his surveillance staff, armed with project-related stipulations established by DOI for federal land use, were assisted by a $15 million technical support contract, given to Mechanics Research, Inc., a subsidiary of Systems Development Corporation (SDC). The new State Pipeline Coordinator's Office (SPCO), created by Alaska to consolidate state oversight, was led in the field by Charles A. Champion, a 42-year-old petroleum engineer from California. A joint federal and state Fish and Wildlife Advisory Team (JFWAT), designed to prevent ecological damage, was most prominent among several cooperative efforts organized by various federal agencies and their Alaskan counterparts.

The ink had barely dried on John G. McMillian's $343 million purchase of the Northwest Pipeline Corporation when, on February 26, he announced a new gas pipeline venture. With Pacific Lighting Corporation, a subsidiary of Pacific Gas and Electric (PG&E), McMillian planned to seek FPC permission for a $212.5 million gas pipeline through the Pacific Northwest. /185 The partnership, Interstate Transmission Associates, expected to transport 402.8 million cubic feet of Canadian and Arctic gas daily about 745 miles through Idaho, Washington and Oregon. This pipeline would constitute the northern section of CAGPL's West Leg, known as the Pacific Gas Transmission line. The previous July, PG&E, again through an affiliate, contracted to buy about 400 MMcf of gas daily over a six-year period from Blair's AGTL, beginning in autumn 1974. The McMillian-Blair connection, which would prove both winning and durable, was officially established.

In the mean time, eight American CAGPL affiliates prepared plans for a 1,725-mile pipeline south from the Montana-Saskatchewan border across the northern plains into Iowa or Illinois. /186 This would be

CAGPL's East Leg, the second part of its southern distribution system which would service midwestern and eastern markets, both seriously short of gas supplies. Construction on this segment, called the Northern Border pipeline, was expected to cost about $1.3 billion.

On March 22, 1974, Canadian Arctic Gas Pipeline Limited filed its proposal for a certificate of public convenience and necessity with the FPC and DOI in Washington and, at the same time, with the National Energy Board and the Department of Indian and Northern Affairs in Ottawa. /187 The Arctic Gas line, sponsored by the 27-member CAGPL consortium, was estimated to cost $5.7 billion before its scheduled completion in the early 1980s. William Borders, a New York Times reporter, believed filing would "raise the curtain on what is expected to be a prolonged controversy." On paper, half the pipeline's gas would be American, originating in Prudhoe Bay and bound exclusively for U.S. markets. The other half would be Canadian, captured from wells in the Mackenzie Delta area and eventually the Arctic Islands, and directed at both U.S. and Canadian consumers, particularly in the East. Actually, most project gas, certainly in the early stages, would shipped to American destinations, making it quite reasonable for some to view the Arctic Gas plan as a new express transmission system conceived to move Canada's gas to American homes and businesses. In that case; as Bregha writes:

> Why should Canada, which has no particular energy shortage now, permit the disruption of her delicate Arctic ecology...for a pipeline that, initially at least, would largely benefit United States consumers? /188

It was a question Canadians had asked before, but were asking now with greater frequency. Canada had promoted the project initially for its short-term development potential, as a stimulant to a sluggish, recessionary economy, and in response to speculation that Albertan gas, Canada's chief domestic and export source, was running out. Furthermore, Canada did not wish to jeopardize its convenient and lucrative American market, an ideal outlet for excess energy, which enabled a favorable balance of international payments and pacified a major ally and trade partner.

Yet, despite Trudeau's commitment, Canadian resolve appeared to be weakening. While the pipeline would doubtless provide a substantial short-term economic stimulant, such invigoration was considered less necessary now that Canada's recession had eased. Additionally, the project's immediate economic value, like that of any large developmental project, had to be weighed carefully against costs, such as environmental disruption. Canadians, as the Mackenzie Valley Pipeline Inquiry would would shortly affirm, were anxious to protect their pristine Arctic regions from instant "civilization." Third, new studies appeared to contradict earlier judgments that the Albertan "bubble" was bursting. Some government analysts recommended that Arctic gas and oil be left as a "strategic reserve" until Arctic technology improved or the Albertan gas fields, seemingly bottomless, showed some sign of depletion. Fourth, the U.S. export market, after the Arab embargo and price escalation, was

never more secure. America had little recourse but to turn to Canada or Mexico for gas. Finally, a "pro-American" posture, as Trudeau had learned at the polls in 1972, was as much as a liability as an attribute in Canadian electoral politics.

Still, the issue was not clear. Subseqent research could once again challenge the Albertan "bottomless pit" gas theory and find compelling immediate justification for an Arctic gas pipeline. In that event, it would be better to have a project in the ground than on the books. Also, the OPEC price could fall to original levels, again jeopardizing Canada's share of the American energy market. And, of course, Canada could slip into another recession, thus anxious for the kind of short-term developmental stimulus the gas pipeline would provide. All in all, there was still enough uncertainty associated with the pipeline issue to give pause on Borders' question.

Blair acquiesced to the CAGPL application, with its ownership and routing provisions; he had, at the time, little recourse. /189 But he would not long suffer it. That February, Blair advised his boss, Albertan Premier Peter Loughheed, that "we [AGTL] do not have confidence that the present internationally controlled project proposal of Canadian Arctic Gas Study Limited...is the right proposal at all." He claimed that "only peripheral consideration of future gas supply to Canadian markets" was involved, noting that there was "little in it for local interests across western Canada." The CAGPL plan, "we think...is far too much oriented to United States markets," he concluded. In April, Blair advised W.D. Dickie, Alberta's Minister of Mines and Minerals, that the CAGPL application was not "sufficiently tailored to meet the future commercial involvment of our own company or of gas services in and for the province as reflected through our operations." He also said the project "may not be practicial...when assessed in the whole range of considerations covering ownership, financing, service to Canadian markets and political acceptability in Canada."

On May 22, Blair told an Arctic Gas management committee meeting that AGTL was considering transmission alternatives to the filed CAGPL plan. No one, after the application's provisions, could have been very surprised. According to Peacock, Blair cited CAGPL's failure to encourage Canadian financing and its insistence on 48-inch pipe, which was in extremely short supply, as his major objections. AGTL was not, he stressed, leaving the consortium at this time. Instead, it was studing several "contingency plans" for marketing excess gas within AGTL's jurisdiction.

Shortly afterward, Blair was contacted by Kelly H. Gibson, chairman and chief executive officer of Westcoast Transmission, the Vancouver-based firm which, with Bechtel Corporation, had promoted the scuttled Mountain Pacific plan in 1969. Apparently, it was Kelly who encouraged Blair to make his final break with CAGPL. He envisioned an all-Canadian pipeline team, composed of AGTL, Westcoast and Horte's Trans-Canada. "Why don't you pull out," he advised Blair, "and then we [he, Horte and smaller Canadian transmission firms] will join you and support you." 190 Blair never expected to lure Horte from CAGPL, but in Gibson,

he had found an eminent energy entrepreneur with substantial American associations and a devotion to Canadian national interests. It was precisely the kind of ally Blair required and desired. Between the two of them, they controlled most major gas transit lines in western Canada. CAGPL would be hard-pressed to operate under "Canadianization" provisions or distribute gas west of Saskatchewan without one of them. The deal, apparently, was sealed with a handshake. Blair, mobilizing his AGTL staff, began to explore the possibility of an all-Canada gas line down the Mackenzie Valley from the delta, extending south into his system and southwest into the Westcoast network. His thinking would shortly crystalize as the Maple Leaf plan.

President Nixon, in January 24, 1974 energy message to Congress, advised Americans that "no single legislative area is more critical or more challenging to us as a people than...[that resulting from] the energy crisis." /192 Among his list of recommendations and developments, the President noted that the FPC would shortly receive two competing applications, CAGPL's Arctic Gas and El Paso's trans-Alaska, for the development and transport of Alaskan natural gas to the lower 48 states. Alaska, he said, offered a new and secure source of oil and gas for many years to come. Private enterprise, with government facilitation such as that offered by Congress in its Mineral Leasing Act Amendments last November, could rise to meet domestic energy needs.

Alaska, finally, began its new boom. TAPS, the Wall Street Journal observed, "has all but turned the state upside down." /198 Nothing would escape the impact. Fairbanks trial jurors, for example, were forced to conduct round-the-clock deliberations in complex cases because overnight accommodations could be found no closer than Anchorage. Crime in Valdez, the proposed TAPS port city, had consisted of two burglaries in three years. A few months after construction began, the city would experience more crime in three hours.

State officials estimated that the pipeline, at long last under construction, was bringing more than an additional $3 million a week into the Alaskan economy. By June 1974, Alyeska employed 3,500 construction workers on the project, most associated with the Arctic haul road and the Valdez port facilities. That number would rise to 6,000 by late summer and, at the height of construction in summer 1975, to 20,000, with nearly all employes working 12-hour days. Initally, workers were scattered in 12 construction camps between the Yukon River junction, north of Fairbanks, and Prudhoe Bay; in Valdez, the proposed port city; in Fairbanks and Anchorage, where Alyeska and its assorted constractors and service affiliates maintained offices. Pay was high. Pipeliners could expect $900 a week as unskilled laborers and $1,200 as skilled tradesmen. Few pipefitters in the lower 48 earned at the rate of $62,000 a year.

Perhaps no Alaskan location was as profoundly affected, at least initally, as much as Valdez, a sleeply coastal hamlet of 1,200 people on the Gulf of Alaska which had never completely rebuilt after the devastating 1964 earthquake. Rows of prefabricated construction housing,

erected in 1970 before the TAPS legal stalemate, now housed 3,000 workers. They would raise five oil tanker berths in the Cook Inlet and build 44 large storage tanks. The town, after the false start in 1970, finally attracted its second doctor and first drug store. Plans were complete for a movie theatre, two banks, a savings and loan and two new hotels. The Valdez municipal budget, $750,000 in 1974, would rise to over $4 million in 1975.

Alyeska's needs, to the small Alaskan merchants, must have appeared insatiable. In the camps, workers were consuming more than 20 railcars of canned gods, flour and sugar, 37,000 gallons of milk, two boxcars of fruit juices and 5,400 prime steers a month. /199 Every storekeeper had a favorite story. A Fairbanks automobile dealer sold his entire stock of 20 four-wheel-drive vehicles to an Alyeska representative - who ordered more on the spot. A local general goods dealer, in the same city, sold $5,000 in sheets and pillow cases to an Alyeska subcontractor in a single afternoon.

New problems, though, came with the new profits. In Fairbanks, the public school population increased by 50 percent, from 8,000 in 1974 to 12,000 the next year, and double terms were required. Four new school buildings were planned, at a cost of $24 million. Anchorage building contractors doubled housing unit construction, from about 2,000 to over 4,000, but still fell short of demand by 1,000 units. Crime, particularly violent crime and prostitution, rose from once hardly negligible levels. Anchorage alone, by September 1974, had itself experienced five murders of prostitutes.

Alaskans, both those who welcomed boom and those who resisted it, generally saw their hopes and fears realized. On the Alaskan Senate floor, the chaplain began the new legislative session with the prayer: "We Thank Thee, O Lord, for the oil Thou has given us as a natural resource." A native woman, after attending a legislative conference on the new oil riches in Anchorage's Captain Cook Hotel, poignantly observed: "I listen to them [Alyeska representatives and state legislators] talk, and I hear the trees falling in the forest." /200

Canada's DINA, in January 1973, had announced plans to establish a Mackenzie Valley Pipeline Inquiry (MVPI) to examine the environmental and socio-economic implications of Northern pipelining. A year later, on March 21, 1974, DINA appointed Justice Thomas R. Berger, member of the British Columbia Supreme Court, as commissioner of the inquiry. /201

Berger, only 41 when named, was a renowed Canadian civil rights attorney. He made his reputation by defending Canadian Indians, first in individual court actions and later as tribes, over land reserve rights to timber, hunting land and fishing. His arguments in the 1971 Nishga Indian aboriginal rights case were upheld by the Canadian Supreme Court and today still comprise the basic legal justification for native

rights assertion in Canada. Additionally, in 1967, Berger successfuly represented Campbell River, B.C., in its action against a local mining company in the first enforcement of the British Columbia Pollution Control Act.

He was a shrewd policical choice for Trudeau. First, Berger was not a Liberal, but instead a leading member of the New Democratic Party (NDP), which had formed in governing coalition with Trudeau's Liberals. No doubt his selection was made to strengthen that governing alliance. Second, Berger was seen as independent, nationalistic, and highly sympathetic to native and environmental issues - precisely the kind of arbitor Trudeau hoped would help restore his environmental image. (Apparently, falling trees were being heard in Canada, too.) Berger would not be let loose without constraint. Trudeau had not abandoned the Northern pipeline initiative and still wished, if at all possible, to facilitate a project. Berger's excesses, it was believed, could be constrained by defining the Inquiry's mission narrowly:

> [The MVPI was] to inquire into and report upon the terms and conditions that should be imposed in respect of a right-of-way that might be granted across Crown lands for the purposes of the proposed Mackenzie Valley pipeline having regard to (a) the social, environmental and economic impact regionally of the construction, operation and subsequent abandonment of the proposed pipeline in the Yukon and Northwest Territories, and (b) any proposals to meet the specific environmental and social concerns set out in the expanded guidelines for northern pipelines... /202

In other words, as Bregha has written, "Berger was to recommend stipulations which would mitigate a gas pipeline's impact," not bring judgment on the basic idea. /203 The government, through its assorted studies, had already determined that if Mackenzie Delta and Arctic Island gas and oil reserves were sufficient for marketing, a pipeline would be built to bring them down. The government, time and again, had reiterated its support a valley pipeline, although it hedged more and more on the CAGPL's "express line" exclusively servicing U.S. consumers. It was assumed, at least originally, that Berger would work from the established baseline, that he would establish rigorous specifications, based upon his study of the region and its people, and then endorse some type of gas transmission plan.

Berger, to Trudeau's delight, could not have thrown himself more enthusiastically into his new work. Surely, the "Berger Inquiry," as it would come to be known, would silence critics of Northern pipelines. Berger slowly accummulated a massive expert staff from DINA and other federal departments but mostly from territorial agencies, local governments, native organizations and environmental groups - even, at first, the pipeline companies. His people were young, bright and committed. Staff was led by Michael Jackson, a 31-year-old British legal prodigy who taught at the University of British Columbia, and Ian G. Scott, a noted Toronto attorney. /204 The inquiry set to business immediately. In April and May, Berger, accompanied by his family, held preliminary hearings in Yellowknife and Inuvik (a native village)

in the Northwest Territories, Whitehorse in the Yukon, and finally Ottawa to determine the extent of hearings necessary to the inquiry. In June and early July, he sequestered himself to assess the hearing information and draft his "Preliminary Rulings," a determination of inquiry scope.

Berger's "Preliminary Rulings" envisioned a more ambitious study than most Canadian officials had initially envisioned. /205 Berger acknowledged CAGPL's request to expedite deliberations, in light of the El Paso all-American proposal soon to be filed with the relevant American agencies. CAGPL officials, with good reason, feared that El Paso would win the franchise if the Arctic Gas plan was substantially delayed by Canadian machinations. (A major El Paso advantage, as with TAPS, was the absence of a complicating international dimension.) Berger's response, for CAGPL at least, was not particularly comforting.

> My mandate is to conduct a fair and a thorough Inquiry. That must come first. I intend to give all those persons and organizations with an interest in the propsoal made by Arctic Gas [CAGPL] a fair opportunity to be heard. I will not diminish anyone's right to be heard, nor will I curtail this Inquiry so as to improve Arctic Gas's position in relation to the El Paso proposals in the United States.

The NEB, of course, had, on March 22, received CAGPL's initial request for certificate of public convenience and necessity. Its usual procedure was to schedule its own hearings on the application. Some felt that the MVPI should be delayed until after the NEB hearings, seen by most as more critical. Berger disagreed:

> ...[I]f it can be said that this Inquiry should wait upon the outcome of the National Energy Board Hearings, it could equally be said that the National Energy Board should wait upon the outcome of this Inquiry, since the terms and conditions that are laid down by the Minister as a result of this Inquiry may alter the basis upon which Arctic Gas seeks a Certificate of Public Convenience and Necessity.
>
> In any event this Inquiry is not just about a gas pipeline; it relates to the whole future of the North. I am bound to examine the social, economic and environmental impact of the construction of a gas pipeline in the North. But the Pipeline Guidelines do not stop there. They require that the inpact of the pipeline should be considered in the context of the development of a Mackenzie Valley transportation corridor.

He planned, he said, to visit communities throughout the Mackenzie Valley, the Delta and the Yukon. He would live, among the villagers themselves, and again, his family and staff assistants would accompany him. Both formal hearings and community meetings would be conducted. Based upon the preliminary hearings, a variety of topical areas were established to frame the impending hearings: native claims, the corridor

concept (multiple transport use), trunk or delivery pipeline connections, producer revenues and taxation, economic impact and the Great Bear Hydro Project (a plan to build three dams on the Great Bear River to furnish hydro-electric power to run proposed gas line generator stations).

CAGPL must have been uneasy. Berger had always been something of an anti-establishment type, the type of fellow they might have trouble dealing with. He did not seem to appreciate gas pipelining or energy economics as much as he did native affairs or environmental protection. Within three months, he had redefined his assignment from a simple exercise in pipeline specification to a comprehensive investigation of the Canadian North. He and his staff immersed themselves in background information and, on October 29, specified more precisely the Inquiry's procedures. Hearings were to begin on March 3, 1975, in the Northwest Territories city of Yellowknife, on the frigid north shore of the Great Slave Lake.

If CAGPL officials were made uncomfortable by Berger's public entrepreneurship, their distress would become genuine on July 31, when S. Robert Blair, president of Alberta Gas Trunk Line, announced that his firm, was considering a new all-Canadian pipeline from the Mackenzie Delta down the valley into Alberta. /206 It was called, appropriately, the Maple Leaf project. Blair's announcement came only months after he and Gibson, the Westcoast Transmission chairman, sealed their agreement. The corporate engine of Maple Leaf would be Foothills Pipe Line, owned 80 percent by AGTL and 20 percent by Westcoast.

The Maple Leaf project was a $3.25 billion, 1,040-mile transmission pipeline running from the Mackenzie Delta directly down the valley to the 60th parallel, the joint border of the Northwest Territories, Alberta and British Columbia. At the border, branches would turn southwest to Fort Nelson, British Columbia and southeast to Zama, Alberta. From Fort Nelson, the line would, under the auspices of Gibson's Westcoast Transmission, continue through the province to Vancouver and, if arrangements could be made and gas were available, into the United States. PG&E, the large San Francisco-based utility, planned pipeline expansion in the Northwest and would probably host American sections. From Zama, the line would merge with AGTL's extensive network and flow south to Empress, on the Albertan-Saskatchewan border, where connection would be made with Horte's TransCanada lines. (Neither PG&E or TransCanada, both CAGPL members, had yet endorsed Blair's Maple Leaf plan.)

Maple Leaf was scattered with spurs and junctions. CAGPL, and most other proposals, envisioned "express" transmission, aimed primarily at the Canadian East, the American Northwest and Midwest. The Maple Leaf, by contrast, serviced Canadian customers along its line in the Canadian west, with gas directed east toward Ontario and excess delivered south to McMillian and the American West. In the Northwest Territories alone, spurs connected the 42-inch main line to Inuvik in the Delta, Norman Wells in the central corridor, and Yellowknife and Hay River to the

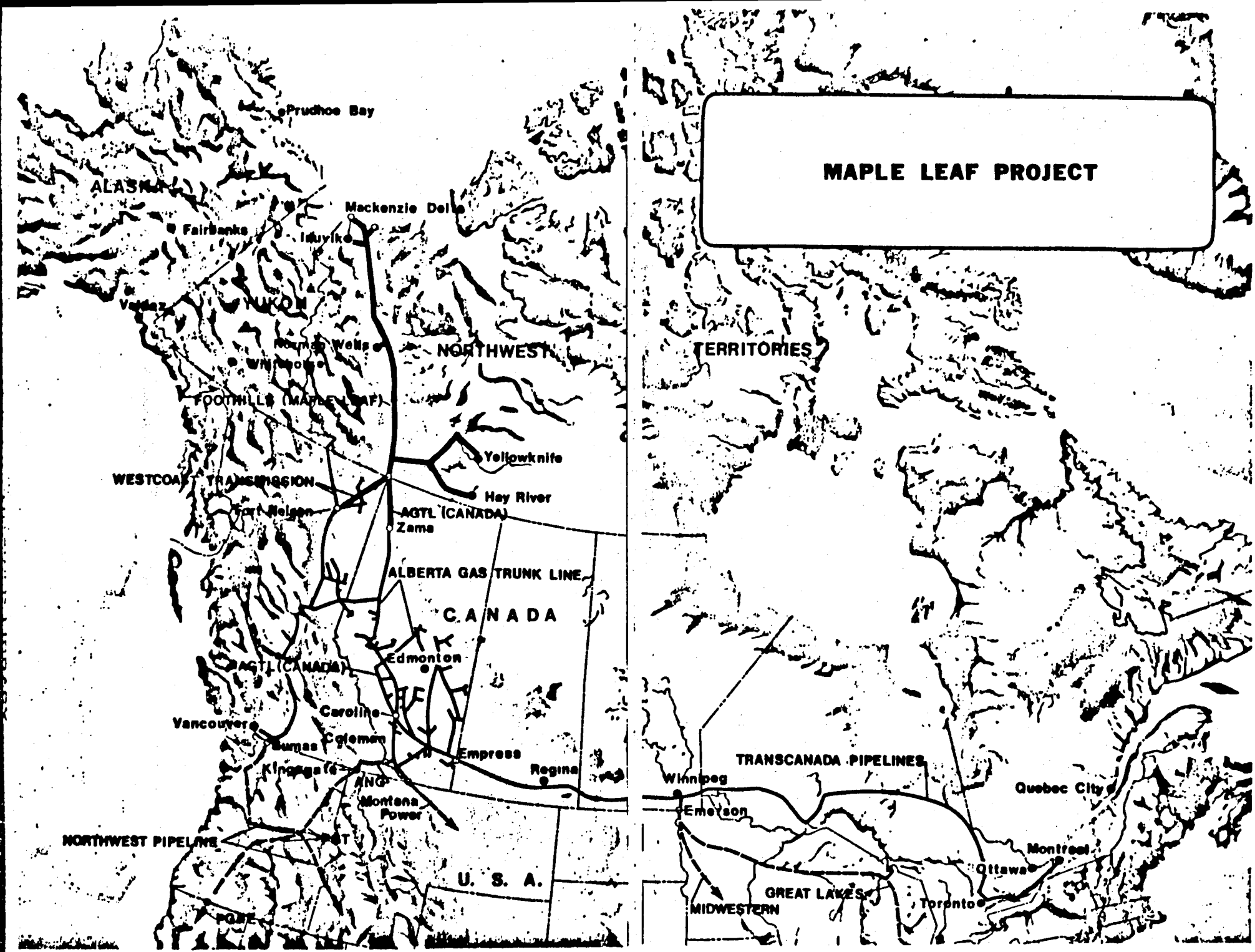
south. In the two southern provinces, the line intersected with dozens of existing field and gathering lines, even distribution lines. (CAGPL detractors called Maple Leaf the "spagetti" line.) In fact, "looping", system supplementation by running an additional line along an existing right-of-way, comprised more mileage (1,100) than original construction, which would cost $1.75 billion and take about 30 months. The Maple Leaf pipeline would carry about 2 Bcf. daily, about half the volume proposed by CAGPL.

Blair, addressing reporters in Calgary, insisted that his Canadian line "needn't wait for Alaskan gas or have its financing or managment governed by the supposition that Alaskan gas is a prerequisite...for the project to be started," although he added that the line could easily be made to accommodate it. He called for a "basic change" in the allotment of Canadian gas to American utilities, which had traditionally paid the lion's share of exploration and development costs in return for a percentage of the deposits. With Canadian demand rising and supply, by some estimates, declining, much less Canadian gas would be available to America. "It just won't be fair," he concluded, "for us [Canadians] to let the U.S. companies continue to advance large sums for reserve development when the real baseload gas supply transaction would be for Canadian distribution."

Foothills, now in the great Arctic pipeline sweepstakes, was still a darkhorse. While its partners ruled the Canadian West, it nevertheless paled in comparison with the powerful CAGPL alliance. CAGPL had a commanding edge in organization capability, financial reserves and political influence. Foothills did, however, enjoy two distinct advantages, both of which would become increasingly important: it was smaller, which facilitated expeditious decision-making, and it was more flexible and responsive to its political environment. /207 A Foothills board meeting, essentially, consisted of a phone call between Blair and Gibson. In addition, AGTL, customed to Blair's extemporaneous management style, was resourceful and innovative, as it had demonstrated in formulating the Maple Leaf plan. Foothills could alter strategy and tactics almost instantaneously and, in the coming years, would be called upon to do so.

On September 16, the inevitable finally occurred. Blair, six weeks after his Maple Leaf announcement, advised CAGPL colleagues that he was leaving the alliance. /208 It was, after spring and summer developments, almost anti-climactic. "Complete withdrawl [from the CAGPL coalition] was needed to harden the final decisions...of expediting complete definition and commencement of the [Maple Leaf] project," he said, "which it now seems Canada will need sooner than expected." CAGPL, explained Blair, "didn't reflect the views of Alberta Gas Trunk." He did not need to specify those differences. His dissatisfaction over "express" transmission, the 48-inch line and lack of hard Canadian ownership stipulations were all quite well-known by this time.

Blair, once again, stressed the importance of preserving Canadian Arctic gas for Canadian consumers, particularly in light of recent studies which forecast supply shortages in the 1980s. Maple Leaf, an


MAPLE LEAF PROJECT
Prudhoe Bay
ALASKA
Fairbanks
Mackenzie Delta
Valdez
YUKON
NORTHWEST
TERRITORIES
FOOTHILLS (MAPLE LEAF)
Yellowknife
WESTCOAST TRANSMISSION
Hay River
Fort Nelson
AGTL (CANADA)
Zama
ALBERTA GAS TRUNK LINE
CANADA
Edmonton
AGTL (CANADA)
Caroline
Vancouver
Coleman
Sumas
Empress
Kingsgate
Regina
ANG
Montana Power
TRANSCANADA PIPELINES
Winnipeg
Quebec City
Emerson
NORTHWEST PIPELINE
PGT
Montreal
Ottawa
U. S. A.
GREAT LAKES
MIDWESTERN
Toronto
PGT

all-Canada route, was dedicated to that proposition, he claimed. William P. Wilder, the CAGPL chairman, was skeptical. /209 The Mackenzie Delta and Arctic Islands had only half the proven reserves required to justify pipeline costs, he noted. How could financing be secured under such circumstances? The only way Canadians could conceivably access Arctic gas, he believed, was by a pipeline system integrated with the Prudhoe Bay fields, where sufficient proven reserves did exist and developmental funds were available. The CAGPL coalition, he added, and the Trudeau government understood this. Without Alaskan gas and a promise of Canadian gas to American distributors, he maintained, an Arctic gas pipeline would not find its way south. Both Foothills and CAGPL returned to the drawing board: Foothills to develop its formal submission and CAGPL to revise its plans in accord with the AGTL defection.

In Texas, the El Paso Natural Gas Company was busy preparing its all-Alaska gas pipeline plan, unveiled in December 1972, for formal FPC submission. El Paso chairman Howard Boyd, desperate to put the Northwest Pipeline divestiture behind him, had begun the considerable task of selling leading politicians and financiers on the project's liquefaction and tanker transport concept. His job became appreciably easier in November 1973, after the Arab oil embargo. Suddenly, energy security, El Paso's most compelling attribute, was of signal importance. Time after time, company executives warned American businessmen that they could not rely on any foreign energy source, especially Canadian, as recent export tax increases and gas quota revisions appeared to demonstrate, for oil or gas supplies. On September 11, 1974, shortly before officially filing for certificate, Boyd told a Federal Energy Administration (FEA) hearing panel in Anchorage that his proposal would "fulfill all objectives of Project Independence - a statement which CAGPL sponsors would have been very pleased, at this time, to make. /210

About two weeks later, on September 24, El Paso filed an application for its $6 billion, 809-mile pipeline and tanker transport system before the Federal Power Commission in Washington. /211 It held few surprises. The project was essentially the same as that posed before the Anchorage Chamber of Commerce nearly two years before. A 42-inch-wide gas pipeline would run almost due south along the TAPS right-of-way to Port Gravenia, opposite Valdez in the Prince William Sound, where it would be liquefied for tanker transport. Tankers would carry it to Point Conception, California, and regasify it for delivery to West Coast and Southwest markets. Pipeline capacity, however, was upgraded to 3.5 Bcf. daily, which would raise from six to 11 the required number of new gas tankers. The application estimated transport costs at $1.15 per Tcf. cubic feet - alone almost as much as the prevailing national rate.

Boyd, in a Detroit press conference, insisted his plan would be cheaper, faster to build and more secure than any of the other major proposals. The Arctic Gas (CAGPL) line, he asserted, would cost $10 billion - a figure CAGPL officials did not dispute. With FPC approval by 1976, he promised Alaskan gas delivery to American consumers by 1980 -

an accelerated timetable, as such projects go. Finally, Canadian alternatives, he argued, "would commit the future gas discoveries of the Arctic region of Alaska to dependence on a foreign power."

Arctic Gas spokemen, including Michigan Wisconsin's Deke Mack, dismissed several El Paso contentions. Mack noted that El Paso's plan served only the West and Southwest, American regions already well supplied, and ignored the East Coast, where recent shortages were most pronounced. He also reminded reporters that the gas liquefaction process generally wasted as much as a third of the fuel. Most importantly, he and other critics wondered if a natural gas tanker, sailing in international waters, was really more "secure," in a national security context, than a pipeline buried across Canada. These issues would retain their salience throughout the contest for Alaska natural gas transmission rights.

In any event, Boyd's proposal was generally well-received. Several congressmen, including Jackson, praised the "all-American" aspect of the plan, despite the CAGPL rebuttal. William Simon, Nixon's Treasury Secretary, appeared very impressed. Macdonald, the Canadian EMR minister who happened to be visiting with American energy officials in Washington at the time, reviewed the proposal but offered no public comment other than to describe the new Canadian oil export tax hike, in this light, as "regretable." /212

El Paso, when applying to the FPC for certification, had failed to file with the U.S. Department of the Interior for land use (right-of-way) approvals. Initially, DOI officials simply thought El Paso's application was incomplete and would be amended shortly thereafter. As time passed, however, officials learned that El Paso had consciously withheld application and had no intention to file until after FPC selection of a Alaska gas transport system. /213 Edward Walsh, an El Paso vice president in charge of the Washington office, explained that "we [El Paso] don't want to pay the cost of the [environmental impact statement, EIS] study if we aren't going to be a successful applicant." The statement's bill, he said, would range from $2 million to $20 million - far too much to expend without explicit governmental assurance of approval. Secretary Morton disagreed. The EIS procedure, he insisted, was an essential element of application and a prerequisite for governmental review and selection among alternatives. The FPC, at Interior's request, redesignated El Paso's application as "incomplete," in lieu of the land-use permit applications. El Paso, in time, would relent, but its EIS protest may have alienated a few congressmen and energy bureaucrats who may have later promoted its certification case.

By late 1974, the Panarctic gas pipeline plan, from the Arctic Islands across the "Canadian shield" to east coast markets, had attracted some serious interest. Two new sponsors were added to the original Polar Gas foursome, bringing the alliance to three Canadian and three U.S. firms. The proposal's treacherous 3,000-mile route was described by analysts as "the world's most ambitious pipeline project." /214

"What we have experienced so far reinforces our original concept that a natural gas pipeline from the Arctic Islands will be technically, economically and environmentally viable," observed J.D. Houlding, the Polar Gas president. Polar Gas teams, led by Panarctic staff, studied pipeline routes overland and oversea to the Parry Islands - about 750 to 1,000 miles northeast of the Mackenzie Delta. The Parry Island chain included Ellef Ringnes and Melville islands, locations where two major Arctic gas deposits were discovered. The engineering problems were immense. In the far North, the overland Polar Gas pipe would traverse "the Barrens," a "near desert of scrubby brown tundra for the short summer season and unrelieved [frozen wasteland] for the rest of the year." The oversea piping, stretching across various Arctic sounds and channels, would be laid in surface trenches dug into the ice, rather than submerged below the water, as the Europeans had done in the North Sea. The ice trench, as it was called, was typical of the pioneering technology associated with the plan.

The pipeline, priced at $6 billion, already cost its sponsors $18 million in design and research. Despite this investment and a public optimism, they must have appreciated the enormity of their task. The pipeline, to be cost-effective, required deposits of 30 trillion cubic feet of accessible gas - at least twice as much as explorations had uncovered to date. Engineering obstacles, particularly those associated with oversea Arctic transmission, were far more challenging than those posed by the Arctic Gas (CAGPL) plan. Furthermore, in a competitive battle for certification, CAGPL had far superior financial, engineering and political resources. Genuine commitment was also at issue. The Canadian members of Polar Gas were Panarctic, TransCanada and a new enlistee, Canadian Pacific Investments. Panarctic, the quasi-governmental energy development venture which headed the coalition, was preoccupied with long-term oil exploration despite its Polar Gas lead. TransCanada and Canadian Pacific both swore primary allegiance to their CAGPL association. The American partners included Tenneco Oil, Texas Eastern Transmission (also a CAGPL member) and PG&T, which was apparently anxious to ally with any system which might help supply its California gas customers. In effect, Polar Gas was a secondary interest for nearly every member of the group.

All in all, the evidence suggests that Polar Gas aimed to improve Arctic pipeline technology, to examine long-range Arctic Island transport alternatives and to satisfy Canadian government desires for a Canadian-led proposal in the Arctic energy rush. It would soon become obvious, to the distress of the Maple Leaf alliance as well as Polar Gas associates, that proved Arctic deposits and current gas demand were yet insufficient to encourage a genuine attempt to develop and market Arctic Island gas. For the immediate future at least, the Arctic energy focus would fall on the Mackenzie Delta or along Prudhoe Bay.

In November 1974, the Canadian NEB arranged a series of hearings to get a better grip on its domestic energy situation. /215 Earlier studies, as we have seen, had been inconclusive and contradictory. "Energy

Policy of Canada - Phase One," published in summer 1973, projected a mild, long-run supply shortfall and recommended, as a remedy, a steady energy development partnership with the United States. This "partnership" idea, to which a joint Arctic gasline project was central, had once been the implicit strategic energy premise of the Trudeau government. Other surveys, much less optimistic about Canada's continental energy supply, recommended resource internalization and immediate reduction, even termination, of exports to the United States. Such a policy posture was supported by both the Quebecois (the Quebec French nationalists), very popular and influential in the province at this time, and the NDP, the western-based democratic socialists who included Justice Berger among their numbers. Finally, still other research suggested that the ever-expanding Albertan gas bubble was sufficiently large to justify substantial American exports, without jeopardizing domestic consumption, well past the year 2000. These studies encouraged generous gas sales to Americans - a disposition favored by the Conservative Party, anchored in the central and western provinces. The Conservatives, in the final six months of 1979, would actually control the government under Prime Minister Joe Clark, although no concerted energy policy could be developed and pursued in so little time.

The hearings' early findings suggested that Canada would soon face a short-term domestic reserve shortage. It would result from Canada's current overcommitment to the export market, due in large part to the 50 percent increase in gas exports granted the United States in 1970 and dramatically reduced energy exploration in the Western provinces. /216 Bregha, the Canadian journalist, suspects that Canadian oil and gas industry officials, in the early hearings, consciously underestimated their nation's energy reserves in order to hype the gas pipeline schemes. /217 After all, if the government and the public suspected the Albertan gas bubble was bursting, additional impetus would exist for Arctic energy development.

Why did Canadian domestic exploration decline? Oil and gas firms operating in Canada, with new price levels established by the Arabs, had enjoyed a period of windfall profits on the sale of their comparatively cheap Canadian reserves. When both the Canadian federal and Albertan provincial governments imposed new taxes to absorb these gains, many exploration firms simply moved south to the United States, where public policy enabled higher returns. Later, after a readjustment of energy taxation policies more favorable to the firms, Canadian drilling operations reconstituted only very slowly. Naturally, proven reserves began to decline, since fewer attempts were being made at discovery. The Trudeau government continued to argue that the Albertan gas bubble had grown smaller only on paper, that it would continue to grow as soon as geologists once again began surveying its size.

The Trudeau cabinet saw these early NEB findings as an affirmation of the "Energy Policy of Canada" study and as justification for current government policy, which endorsed a significant export allowance for the United States and a Mackenzie Valley pipeline for Arctic gas. Canadian hopes of utilizing Arctic gas, officials argued, relied upon American

capital for field and pipeline funding. U.S. money, of course, would be available only if Canada was willing to share generously its Albertan gas, officials reasoned.

The Quebecois and NDP, however, called for immediate export reductions. They believed the oil and gas producers had fabricated the new energy "crisis." They believed, as Professor John Helliwell, a University of British Columbia economist demonstrated with his computer model (using industry data, incidentally), that plenty of Canadian gas existed for both domestic and foreign commitments. /218 The shortage, they were convinced, was just a ploy to regain momentum for the Mackenzie Valley gas pipeline. These nationalist parties, however, objected to substantial exports regardless of the amount of Canadian reserves. Canadian energy, they maintained, should be preserved for Canadians. The Maple Leaf plan appealed somewhat, due to its all-Canadian aspects and AGTL's public-sector administration, but the other plans, in the long run, serviced Americans at Canadian expense, they decided. In parliament, the Liberals, as the hearings wore on, managed to defend their interpretation of the "shortage" and, so far, justified their remedies for ending it. But even they were less convinced of the virtues of alliance and accommodation than they were only a few years before.

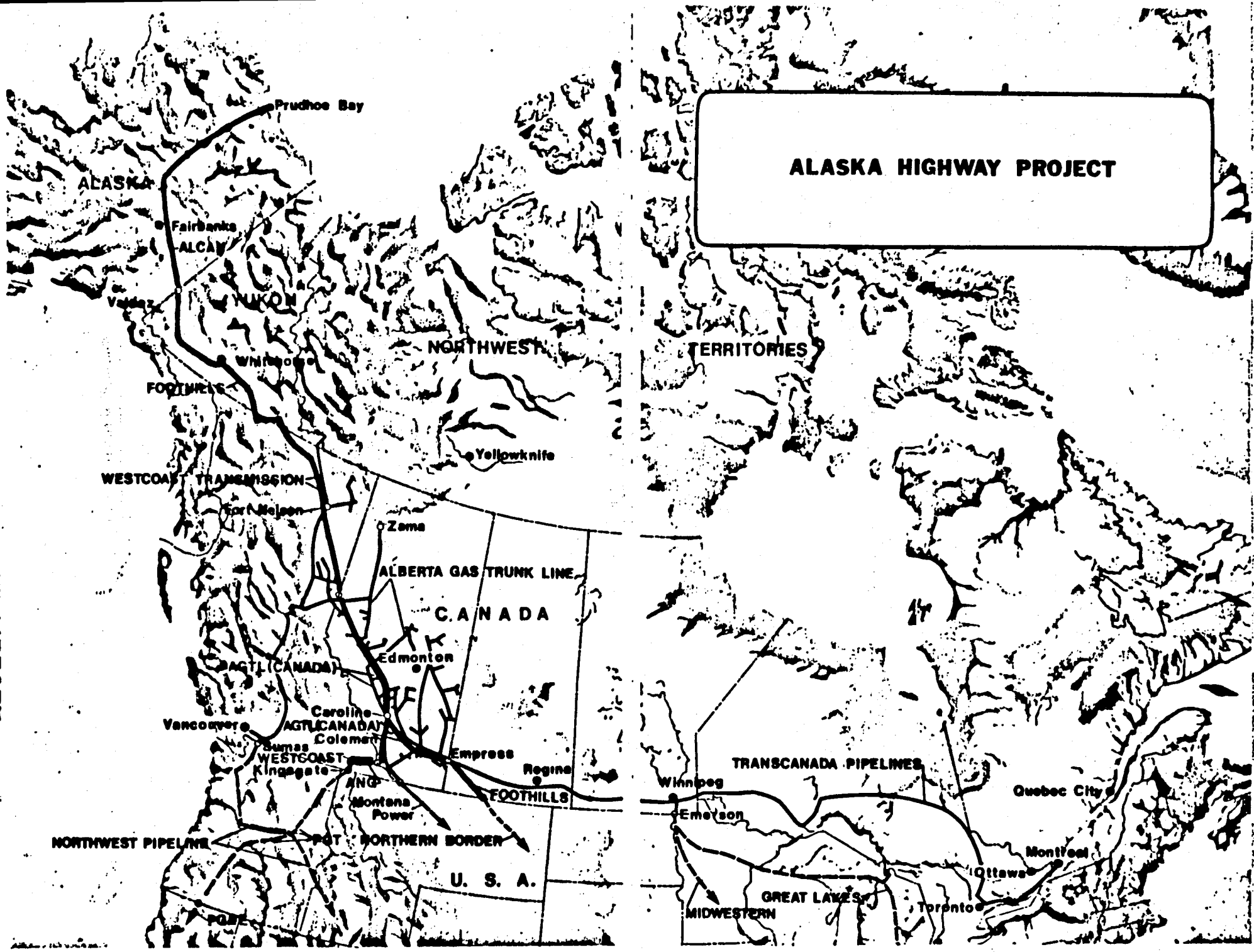
Posturing For Certification

By 1975, four major corporate players in the unfolding Alaska natural gas transmission scernario had been introduced. CAGPL, the powerful American-Canadian coalition of leading producers and transmission companies, marginally adjusted its Arctic Gas plans to compensate for the AGTL defection. Its proposal envisioned pipeline construction from Alaska's Prudhoe Bay across to the Mackenzie Delta, then south through Alberta. There, its express lines would service communities in the United States and eastern Canada. Some CAGPL officials probably considered redesign a small price to pay for shedding the AGTL aggrevation. This was, no doubt, particularly true of the American members, who would never quite come to appreciate Blair's corporate nationalism.

AGTL, in alliance with British Columbia's Westcoast Transmission, had fashioned the Maple Leaf pipeline, an all-Canadian line originating in the Mackenzie Delta and servicing Northern, Yukon, British Columbian and Albertan communities all along its route south. Excess gas would flow into the American Pacific Northwest, via McMillian's Northwest Pipeline network, and east to Canadian facilities, controled by Trans-Canada. A second line with primary Canadian direction was the Polar Gas project, inspired by Panarctic's Arctic Island explorations and visionary technology. It would pass from the remote Ellef Ringnes Island over Arctic sounds and gulfs to the Delta, then turn southeast across the "Canadian shield" into Manitoba and Ontario. Although it was blazing Arctic pipeline engineering frontiers, gas reserve limitations and financing problems limited its viability as a competitive plan.

Finally, El Paso Natural Gas, the all-American alternative, was embroiled with the Interior Department over EIS charges. The El Paso pipeline, if certified, would run parallel to the trans-Alaskan Pipeline System (TAPS) to a port near Valdez, on the Gulf of Alaska. There, gas would be liquefied for Pacific tanker transport to northern California ports, regasified and transported through existing American lines to Western and Southwestern markets. Serious questions were raised over the efficacy of El Paso's proposed liquefaction scheme and tanker technology, but American policy-makers, after the OPEC price escalations, were receptive to any transport plan which avoided international co-operation.

On January 6, 1975, the FPC reported that production of U.S. natural gas, which had experienced a steady drop in proven domestic reserves over the past several years, had "peaked and will decline indefinitely." /227 This was hardly revelation. Gas discovery, since the early 1970s, rarely rose above 10 Tcf. a year although exploration had increased considerably. Production, by 1974, had stabilized at about 20 Tcf. annually, but this indicated that American consumers were still depleting reserves at least twice as fast as the could be replaced. In 1974, U.S. reserves had declined by a 12.8 Tcf. Net reserves, from a high of 293 Tcf. in 1967, had dropped to 237 Tcf. in 1974. /228


ALASKA HIGHWAY PROJECT
Prudhoe Bay
ALASKA
Fairbanks
ALCAN
Valdez
YUKON
NORTHWEST
TERRITORIES
Whitehorse
FOOTHILLS
Yellowknife
WESTCOAST TRANSMISSION
Fort Nelson
Zama
ALBERTA GAS TRUNK LINE
C A N A D A
AGTL (CANADA)
Edmonton
Vancouver
Caroline
AGTL (CANADA)
Coleman
Sumas
WESTCOAST
Kingsgate
Empress
Regina
TRANSCANADA PIPELINES
Winnipeg
Quebec City
FOOTHILLS
Montana
Power
Emerson
NORTHWEST PIPELINE
PGT
NORTHERN BORDER
Montreal
Ottawa
U. S. A.
GREAT LAKES
MIDWESTERN
Toronto

The government, the FPC report urged, must take appropriate action to "cope with [production cutbacks] and the resulting curtailments of... service to customers." Such action included mandatory natural gas conservation measures and, to the chagrin of administration's new energy leadership, allocational schemes which favored preferred customers, such as residential and specialized industrial users. The report also criticized governmental dependence on industry data and recommended new, independent studies by the FEA to determine American gas reserves.

In Canada during this time, the NEB was concluding its hearings on domestic energy supply. Its findings, noted above and discussed below, suggested that Canada also faced a steady depletion of its gas and oil reserves, at least in the short run. This suspected shortfall, however, did not prevent the NEB from approving a short-term export sale, starting October 1975, of as much as 55 MMcf. of gas each day to a Pacific Northwest pipeline at $1.90/Mcf. - nearly double the standard border price of $1/Mcf. /229 The gas was purchased by McMillian's Northwest Pipeline for distribution to U.S. West Coast utilities, and purchased from Pan Alberta Gas Ltd., an affiliate of Blair's AGTL. The NEB termed the decision a "goodwill gesture" to American consumers who had, during the current winter, suffered cutbacks in Canadian gas due to British Columbia's energy shortages.

On January 23, 1975, the FPC ordered a consolidation of its Arctic Gas and El Paso applications, for certificate to build an Alaska natural gas transmission system, as Docket No. CP75-96, et al. A pre-hearing conference was scheduled for April 7; hearings were set to commence in early May. Little could the commissioners have guessed then that two years would pass before they would render a decision, and even then, only under congressional directive.

Most Arctic pipeline activity, however, was found further north. The NEB Gas Hearings were well underway when Justice Thomas R. Berger, the young, dynamic commissioner of the Mackenzie Valley Pipeline Inquiry (MVPI), gaveled his initial session to order on March 3, 1975, in Yellowknife, the capital of the Northwest Territories. /230 "This inquiry," Berger told his audience, "is not about a pipeline. It is a social, economic and environmental impact study whose magnitude is without precedent in the history of our country." Eyebrows, at that moment, must have raised among gas industry and pipeline officials, fidgeting uneasily in a cramped hotel meeting room. They sat, in tailored pin-stripped suits, across from Northern Indians, in native garb, and surely could not completely understand why they could not have made their initial presentations in the accustomed comfort of Ottawa. The Privy Council instructions, fashioned to constrain Berger and expedite the pipeline considerations, had been all but ignored by the Commissioner. He had written a new position description for himself with few of their concerns in mind.

The tone was set almost immediately when Reginald Gibbs, a territorial attorney, ridiculed Northern pipelining as "the equivalent of a Panama Canal across Canada. It seems incredible," he added, "that we should

be expected willingly and gratefully to use Canadian land, Canadian treasures and Canadian talents to the end that there can be sucked away to foreign uses a precious Canadian resource which will be needed by Canadians." CAGPL spokesmen, led by Verne Horte, insisted the pipeline's effect would be more like "running a thread through [New York's] Central Park." CAGPL had already spent $75 million on engineering and design, including $12 million on what company officials described as "the world's largest privately financed environmental study program." The Arctic Gas plan, officials said, would spare the Arctic land, wildlife and native Indians from all but temporary inconvenience, if any inconvenience at all. With Canada's energy prospects recently darkening, the new line would certainly brighten the picture. "If the line is deemed to be in the public interest," Horte explained, "the [NEB] approval carries with it the right to cross private property, with compensation, just as it's done in southern Canada, or anywhere else."

But the MVPI itself stood as testimony that what was true to the south was not necessarily so in the North. This slowly dawned on those Arctic Gas executives, accustomed to dealing in reason and hard cash as they shared hotel meeting rooms, assembly halls and tents with the peoples and protectors of the North over the next 20 months. As James Wah-Shee, president of the Indian Brotherhood of the Northwest Territories, observed at the initial Yellowknife sessions: "The destruction of our way of life in return for compensation, and a menial role for native people in outside-initiated development irrelevant to our needs, cannot be assumed by Arctic Gas." After the initial sessions, CAGPL would take nothing for granted about the MVPI.

Foothills Pipe Line filed its Maple Leaf pipeline plan with the Canadian National Energy Board on March 27, 1975. /231 The project, as expected, proposed a near 1,000-mile, 42-inch pipeline from the Mackenzie Delta to the northern adjoining corners of British Columbia and Alberta, where it would split and connect with existing provincial systems. The western section, dropping through British Columbia, would eventually service U.S. Pacific Northwest pipelines. The eastern segment, "looping" much of the intricate AGTL network, would then branch onto a major transmission lateral, owned by TransCanada PipeLines, for transport to eastern provinces. The only significant change was the cost: $7 billion, as opposed to $3 billion, cited earlier.

The Foothills "approach," however, was perhaps the most unique and interesting aspect of the plan. It reflected the philosophy that Blair had tried so hard, but unsuccessfully, to recommend to CAGPL. Its elements included:

- Major Canadian ownership.
- Segmentation of pipeline management by region. Management would be federative, with each regional sponsor responsible for his own segment's financing, construction and operation.
- Reliance upon existing lines. "Looping" was adopted to avoid problems and delays associated with securing new right-of-ways.

- Conservative engineering design. Foothills, unlike Polar Gas, was not interested in making a major technological contribution to Arctic pipelining.
- Gas supply to Canadian communities en route. Blair was intent upon servicing his AGTL customers both along the right-of-way and across the province.
- Canadian gas only.

There was much, from a Canadian nationalist perspective, to admire about the Foothill's approach. Maple Leaf was smaller, less expensive and more efficient than the Arctic Gas express line. It aspired, in this period of suspected natural gas shortage, to deliver Canadian Arctic gas to Canadian customers and export, to the Western United States, only a small excess. In its totality, it scaled down the Arctic pipeline transmission idea and, in doing so, made it more compatible with perceived Canadian intentions for the North.

One could not, on the other hand, underestimate its two major deficiencies: a lack of Mackenzie Delta reserves and a dearth of available Canadian financing. It was an open secret that in 1975, despite a sustained drilling and exploration effort, not a single new major gas discovery was made in the Mackenzie Delta. So far, the area listed less than half the reserves necessary to justify pipeline construction from the delta. Project initiation, with such uncertainty surrounding deposits was an extremely risky proposition. Additionally, as the cost of the Maple Leaf project rose, prospects for sole Canadian financing diminished. Canadian financial institutions simply lacked the financial resources to underwrite so massive a construction project. AGTL and Westcoast Transmission were coming to realize this. American creditors, at least initially, would probably have to own a piece of a Maple Leaf pipeline.

By spring 1975, a few Foothills executives, like Edwin Phillips, the Westcoast president, began to suspect that their project, like the Polar Gas plan, was falling out of the race. The Americans, now more than ever, appeared determined to develop their Alaskan gas fields. They had two alternatives, soon to be assessed in an FPC tribunal: El Paso and Arctic Gas. If the all-American El Paso plan was approved, Maple Leaf would retain some viability, provided financing could be secured and reserves in the Canadian Arctic increased. However, if Arctic Gas was selected, the Canadian government, by most analyses,

would be all but compelled to endorse the same plan. Maple Leaf, then, would be rendered obsolete and AGTL, the prodigal son, would repetition for CAGPL membership without even the marginal influence it had enjoyed earlier. As Bregha explains:

> The main problem with Maple Leaf, as they [Foothills officiaries] saw it, was that it did nothing for the US. This was a liability because they agreed the pipeline decision would be taken in Washington, not Ottawa. They firmly believed that if the US insisted on the construction of a joint Mackenzie pipeline... Canada would have a hard time withstanding that pressure. /232

Curiously, if the Canadians believed the American choice among pipeline plans would be decisive, the United States did not seem acknowledge any advantage. Quite the contrary. Since both Arctic Gas and Alcan, later sponsored by Foothills, were basically American transmission projects using Canada as a land bridge, American officials figured that Canada, as the pipeline host, deserved certain concessions. In fact, the eventual Alcan project selection by President Jimmy Carter was predicated by the NEB's rejection of Arctic Gas as environmentally unsound and otherwise dangerous to the Mackenzie Valley area.

The Canadians were not at first as sensitive as they might have been to American willingness to accommodate them. They saw project construction as a welcome short-term economic boost and the pipeline first as a means to deliver excess gas to a powerful, influential neighbor and, second, as a way to tap their own Arctic gas resources. Both parties may have seen themselves at a bargaining disadvantage due to a preoccupation with their own benefits and, correspondingly, an inability to comprehend the advantages the other party would enjoy. When pipeline treaty negotiations occurred in summer 1977, this "tunnel vision," if it did exist, apparently cleared. Neither side, at that time, appeared blind to the other's advantages.

Perceptions aside, some Foothills executives did come to believe that its Maple Leaf plan could not compete with Arctic Gas. They could only win certification as a competitor in the American sweepstakes. This, of course, implied a Prudhoe Bay connection. Once again, Westcoast Transmission, through Phillips, had an idea: refashion their old Mountain Pacific proposal to carry Arctic gas along the Alaska Highway. /233 An Alaska Highway pipeline could be extended northwest through the Canadian Yukon and southeastern Alaska to Fairbanks, then run northeast to Prudhoe Bay along the right-of-way previously established by the TAPS. Staff was directed to study it.

In January 1975, Charles Champion, the Alaska state pipeline coordinator, advised new Alaskan Gov. Jay Hammond of a variety of logistics and oversight snafus which could delay the TAPS project by an additional seven months. /234 "We [the State Pipeline Coordinator's Office] aren't trying to second-guess Alyeska," Champion wrote, "but their shipping and delivery schedules are extremely tight. Any major labor problems or acts of God could cause delays." The Champion memo was prepared, in large part, to warn Hammond of the potential loss of $178 million in state royalties for a six-month slip or $504 million for a year delay.

Robert Miller, an Alyeska spokesman, insisted that he had no "reason at this time to believe that our schedules will slip." He admitted the firm was currently running about six months behind, but claimed "these initial delays shouldn't afect the overall schedule." Nevertheless, ARCO and Standard Oil of Ohio (Sohio) stock fell sharply on the New York Stock Exchange shortly after the Champion report became public in mid-February. TAPS cost estimates had already escalated, over the past year, from $4 billion to $6.375 billion, as as of November 30, 1975. Any additional cost escalation was bound to adversely affect market prices for the Alaskan crude oil. Nevertheless, construction pushed on.

The U.S. General Accounting Office, pursuant to an early April request from a House Interior subcommittee chairman, submitted a report on the construction status of the Trans-Alaska Pipeline System (TAPS) by November 1975, the end of the annual construction season. /235 The report, published in February 1976, provided a predictably mixed review of project progress. TAPS, as expected, was experiencing some problems, hardly surprising for an undertaking of its unprecedented size, but they did not appear disabling. The years of delay, reconsideration and revision may have, in the end, enhanced planning and helped ensure that the construction phase would be more successful.

TAPS, by Thanksgiving 1975, was indeed taking shape. The 361-mile gravel haul road, stretching 28-feet-wide from the Yukon River crossing, about 100 miles north of Fairbanks, to Prudhoe Bay, was completed by late 1974. The Yukon River bridge, built as part of the state's highway system, was completed and operational by October 1975. (Supplies no longer had to be ferried across the river.) Twenty-eight construction camps were located along the pipeline corridor, as well as three permanent and a score of temporary airfields. /236

About 365.5 overland miles of the TAPS 48-inch pipeline was being buried conventionally. Another 23 miles, crossing 356 river and streams, was bridged by a variety of usual fording techniques. Slightly over four miles of pipe was buried with a ground refrigeration system to protect the Arctic permafrost. The final 408 miles of pipe was elevated on support platforms, approximately 50 feet to 70 feet apart, also to avoid thawing the permafrost. One hundred and forty-two valves were installed along the pipeline - one for about every seven miles - to limit oil spills in event of a break. Twenty-four of these valves were located on either side of 12 manned pump stations, small maintenance and operations outposts, scattered along the route.

The terminal was slowly rising from the ashes of Valdez. Four berths, three fixed and one floating, were under construction during the first phase. Under the Valdez port configuration, four 150,000-ton tankers could be loaded simultaneously at a rate of 80,000 to 100,000 barrels an hour. The average tanker turnaround time was between one and two days. Eighteen holding tanks were being erected at the terminal, each one capable of storing 510,000 barrels of oil. Valdez would also host the pipeline's central control system, which consisted primarily of three communications systems. The main network was microwave, allowing 240 channels for private use and 60 channels for pipeline systems. Two backup systems would consist of a satellite communications link and a high-frequency radio channel.

The overall TAPS project, as of November 30, 1975, was about 40.5 percent complete - about 2.5 percent or three weeks behind schedule. Alyeska decided, in order to finish Phase I by its target of July 1, 1977, that its summer manpower levels at the pump stations and the terminal should be maintained throughout the winter. Pipeline construction itself, however, was about six weeks ahead of schedule. Engineers were able to overcome "late delivery and construction of [some] camp housing;

problems with camp sewage treatment facilities; late delivery of construction equipment; and problems in obtaining supplies, material and spare parts." /237 The only significant pipeline engineering difficulty, according to GAO analysts, occurred in ground drilling for vertical pipeline supports. Equipment arrived late, prototype procedures failed and the drills required continuous repairs.

Pump station, terminal and communications components of the TAPS project did not progress as smoothly as the pipeline. The pump stations were about 10 weeks behind, due largely to a delivery snafu over steel bars, anchor bolts, some piping and fittings, and a major soil instability problem at pump station 6, at Five Mile on the Yukon River. The terminal, eight weeks behind schedule, was slowed by late delivery of construction materials and more excavation work than anticipated. (The terminal, to prevent damage due to earthquakes, was constructed on bedrock. Construction first required stripping the rock's organic overlay and glacial till. These residual layers, at Valdez, turned out to be about three times as deep as initially estimated.) Finally, the communications system, scheduled to be 90 percent complete, was only at 76 percent, although Alyeska officials expected to close this gap very quickly.

Alyeska faced several obstacles in its attempt to make up time. First, the Yukon River crossing, underway that autumn, made only marginal progress in the Alaskan winter and had to be temporarily suspended during the fish-spawning seasons. The Keystone Canyon pass, located about 25 miles north of Valdez in the Chagach Mountains and considered the route's most difficult engineering stretch, lay ahead in the 1976 construction season. Pipe, on the pass, would be installed at a rate of 200 to 500 feet daily against the standard TAPS rate of 3,000 to 4,000 feet a day. Finally, workers frantically struggled to compete construction of the pump station buildings, which would be necessary if Alyeska intended to work on the stations over the winter.

A key GAO assessment, of course, was the extent and quality of Federal oversight of the TAPS. /238 TAPS comprised, by far, the largest post-NEPA private construction project. It would be a critical test of modern government's ability to weigh new, emergent environmental concerns against developmental imperatives. The 801-mile TAPS route, as noted earlier, included 762 miles of government land, of which 574 miles were Federal. The TAPS authorization act (PL 93-153), passed in November 1973, identified the Secretary of the Interior as the Federal government's chief administrator of the project. The Secretary, authorized to issue, administer and enforce the right-of-way permit stipulations for land use, was directed to appoint an Authorized Officer with day-to-day responsibilities to ensure the terms, conditions and stipulations of the Agreement, signed by the Government and the Prudhoe Bay producers on January 23, 1974. The Governor of Alaska, later the same month, appointed a State Pipeline Coordinator, charged with coordinating State surveillance of the pipeline project and protection of the Alaskan environment. After some discussion and negotiation, the Federal and State

pipeline agents clarified respective responsiblities for oversight, with the Federal government taking the lion's share. Finally, on May 3, 1974, Alyeska and State officials reached a state right-of-way agreement.

Rollins, the retired General who was named DOI's Authorized Officer, had enlarged his pipeline surveillance staff to 48 persons, with an additional 71 technical specialists under contract. Champion, the young California petroleum engineer leading the Alaska state pipeline office, had built a staff of 32. The Joint Fish and Wildlife Advisory Team (JFWAT) accounted for an additional 33 personnel.

Both pipeline offices were created to facilitate, as well as supervise, construction. They were established to ensure that TAPS was not unreasonably delayed by governmental "red tape." To this end, procedures were established to expedite permitting and work day hours were extended. By the end of September, Federal and State agencies had issued 679 of 710, or 96 percent, of all permits necessary to the project. The average time for Federal review of application and permit issuance was 70 days; for State review, about 65 days. "It took longer than 90 days to issue some notices," the GAO reported, "either because additional information was needed or because applications of higher priority had to be reviewed first." /239 The GAO did note, however, that "Alyeska officials told us that the Federal and State reviews had not adversely affected project completion but had required rescheduling of some construction work." Oversight, at least by mid-project, had apparently not occasioned any major project delays.

TAPS, however, was not without a few serious problems. Federal agents, even before construction had begun in 1974, had recognized deficiencies in Alyeska's planned quality assurance/quality control (QA/QC) system. A QA/QC system is a self-enforcement mechanism designed to ensure that activities automatically comply with certain project specifications. In the TAPS instance, QA/QC personnel were instructed to "flag" any aberrations from prescribed construction policies and procedures, which theoretically would trigger readjustment to proper functions. When operating properly, QA/QC significantly reduces the need for direct governmental surveillance of day-to-day activities. The TAPS quality assurance program, the GAO contends, "did not function properly during the early part of the 1975 construction season because Alyeska had not given quality control personnel the authority to halt nonconforming work." /240 In other words, QA/QC personnel, upon discovering an indiscretion, lacked authority to halt construction until the problem was solved.

This was a serious deficiency and, according to the GAO, Alyeska's three major violations of the environmental stipulations could be traced directly to it. The Alyeska/Interior "Agreement and Grant of Right-of-Way for Trans-Alaska Pipeline" designated 14 environmental and another 10 technical stipulations. /241 "The most important environmental problems that occurred during the 1975 construction season," GAO reported, "related to the lack of erosion control, the occurrence of oil spills, and

the failure to meet standards for sewage treatment." /242 Other environmental problems had arisen, the report continued, "but they have had only limited impact." Alyeska, in many instances, simply did not follow its own approved erosion control plans. Drainage structures were inadequate and revegetation procedures were ignored. Government field surveillance personnel estimated that in a single 31-mile section, "70 percent of the natural drainageways had not been equipped with culverts or low-water crossings." Such oversight often caused saturation and structural failure of pump station work pads - thus doubling the time and expense of following original restoration procedures.

Alyeska consistently underestimated the severity of its oil spills in government reports. For the 12-month period ending July 31, 1975, Alyeska reported 71 land and 22 water spills amounting to 32,215 and 76,365 gallons of oil, respectively. In the Galbraith Lake Camp spill on February 7, 1975, for example, Alyeska estimated loosing only about 100 gallons of heating fuel. In Spring, Federal monitors reassessed the spill, which polluted the nearby lake, and revised the estimate up to 65,000 gallons. In October 1975, a worker at Franklin Bluffs Camp cut, but failed to plug, a fuel oil line. Before the leak was detected, about 29,000 gallons of oil contaminated an acre of tundra adjacent the facility.

"Alyeska's sewage treatment plants have not consistently met the pollution control requirements of the stipulation," the GAO claimed. /243 Problems began in early 1974. By May 30, 1974, Rollins ordered that the sewerage facilities reach standard by June 15, 1974, or he would order them closed. Alyeska's performance improved sufficiently to avoid closure, but as late as September 27, 1975, nearly 30 percent of federally-administered tests failed to meet permit requirements. Even after Rollins' office established a policy of reducing camp population by 10 percent for each week after three of continued noncompliance, sewage treatment did not always make standard.

The technical stipulations governed a variety of pipeline system standards, which included construction mode, earthquakes and fault displacements, stream and flood plain crossings and erosion, pipeline corrosion and containment of oil spills. "Since the technical stipulations are generally designed to insure the integrity of the pipeline system," the GAO observed, "their effectiveness cannot be fully determined until the system is operation." /244 An evaluation of technical issues would await a second GAO study, scheduled for the completion of Phase I in July 1977, when 600,000 barrels of oil a day would begin rushing from the North Slope to the new port of Valdez.

Champion, in January 1975, was correct about his suspected TAPS construction slip and the state of Alaska had to delay, by six months, its budgeting of North Slope oil royalties and taxes. But the TAPS pipeline, despite its engineering and environmental problems, was rapidly rolling out across the Alaskan wilderness. Speculators who had bought ARCO and Sohio stock low in February 1975 would not regret their decision.

On May 5, 1975, Administrative Law Judge Natum Litt opened the Federal Power Commission hearings in Washington, D.C., on El Paso Alaska Company Docket No. CP 75-96, et al - the competing applications of the El Paso and the Arctic Gas alternatives for certification as the Alaska natural gas transportation system. Judge Litt, at the outset, braced for a full agenda. Nearly 200 interested parties filed as witnesses, representing the competing companies, oil and gas firms, public utilities and environmental groups. /245 The key issues were already quite familiar: extent of North Slope gas supply; technical feasibility and construction schedule; project cost allocation; environmental and socio-economic impacts; Alaskan gas marketability; energy security; international relations and balance of trade (Canada); financing and tariffs. Each project would be assessed in relation to the other on the basis of these points.

As the hearings began, a few issues already commanded special attention. First, many questioned the security of American gas transported through a Canadian (Arctic Gas) pipeline, particularly in the wake of the Arab oil embargo and in light of recent Canadian gas price hikes and export limitations. Boyd and other El Paso officiaries, on the Chamber of Commerce circuit, had been very successful in raising such doubts. Boyd warned that cost estimates for the Arctic Gas pipeline were uncertain due to Canadian provincial taxing alternatives. "There will be little restraint on the provinces to keep them from increasing such [export or transmission] taxes to the disadvantage of U.S. consumers." /246 A treaty might initially limit Canadian options, he added, but "it [a treaty] is not effective in perpetuity, but only as long as it serves the national interests of its parties. Canada will do what is in Canada's interest." British Columbia, in late 1973, had broken a contract with El Paso by tripling its export price, he noted. "We were summarily advised that unless payment was made immediately and in full, the gas would be cut off."

Arctic Gas proponents rejected the notion that Canadians would tamper with American gas or "arbitrarily" raise prices. "There is no justification in history, law or current evidence for such allegation," countered William D. Brackett, an Arctic Gas vice president. Transmission of Alaskan gas across Canada was completely distinct from the sale of Canadian gas to U.S. utilities, a process which could and did involve substantial export taxes. A treaty, he insisted, would limit transmission fees and other charges which the Canadians might levy on the pipeline. Any treaty violations, Brackett added, would most certainly be dealt with harshly. He also noted that while large quantities of Canadian gas and oil passed into the United States, considerable amounts of American energy flowed north into Canada. If the Canadians ever considered disrupting the transport of Alaskan gas, we would have recourse to discontinue our own deliveries to them.

Even after the Arab oil embargo and in the midst of U.S. domestic energy shortages, the environmental issue retained its salience. Ecological considerations would particularly haunt Arctic Gas. In early February 1975, Brock Evans, director of the Sierra Club's Washington

office, voiced firm opposition to the Arctic Gas plan, which ran directly through the Arctic National Wildlife Refuge in northeastern Alaska. /247 The proposal, he claimed, could cause "irreversible and irreparable damage" to the Alaskan Arctic environment and "would have [a] devastating impact upon the habitat of the critical [mammal] populations" of caribou, polar and grisly bears, moose, wolves, red fox and upon various Arctic birds, such as golden eagles, snowy owls and loons. The environmental groups were willing and able, if necessary, to return to court.

El Paso's project was not beyond environmental reproach. Although its pipeline, for the most part, traversed the existing TAPS right-of-way, it would diverge from that route for the final 33 miles to reach Gravina Point, where El Paso's LNG facilities were planned. This detour carried the line directly through the Chugach National Forest, a fragile wilderness and wildlife preserve. Furthermore, the Gravina Point LNG plant proposed a sea water cooling system, which could adversely affect marine biota in Orca Bay and in the larger Prince William Sound. Finally, liquefaction technology and liquid natural gas (LNG) transport were still precarious propositions. For example, El Paso's liquefaction process would consume about 15 percent of all transmission gas - an amount, lost each day, sufficient to service four cities the size of Washington, D.C. Obviously, this was not a statistic which impressed conservationists in the proper way.

A third issue, balance of trade, was of particular concern to the FPC, given its regulatory responsibilities. El Paso officials, of course, argued that their plan would reduce foreign payments; the need for expensive Canadian gas importation would decrease as Alaskan gas entered the market. The Arctic Gas plan, on the other hand, would result in a $10 billion flow of American dollars to Canada in taxes and transmission fees over the next 25 years, El Paso staff estimated. /248 Arctic Gas economists predicted a $3.3 billion outflow.

The FPC certification hearings would continue, almost with out interruption, from May 5, 1975 until November 12, 1976, when the record finally closed. In that time, Judge Litt and his staff would accumulate 253 volumes of transcript, comprising almost 45,000 pages of testimony, about 1,000 formal exhibits (some, including the various environmental impact statements, which ran over 1,000 pages each) and "innumerable items by reference." /249 "Offical view," FPC hearing staff visits, would be conducted in August 1976 of all the proposed major facilities and pipeline routes of the competing alternatives. "The magnitude of the physical undertaking and cost of building a gas transportation system from Alaska apparently exceeds any prior U.S. private undertaking," Judge Litt would later observe in his Initial Decision. /250 The magnitude of his deliberations would be equal to it.

It appears natural to compare the Litt hearings with Canada's Berger Inquiry, although they were, by design, somewhat different ventures. (Perhaps a better analogy for the Litt hearings would be the NEB Arctic Pipeline Hearings, begun in October 1975 and discussed below.) Litt as

an FPC administrative law judge, was required to conduct his tribunal within the confines of commission's procedures. His charge was narrow: assess and advise the commission on the soundness of competing applications for certification as the Alaska natural gas transportation system.

Berger, in contrast, was appointed to lead a special investigation, less restricted by precedent or prescribed policies. He was, by plan, largely beyond organizational constraint and his guidance, more broadly defined. He was able to alter his decision frame from "Which Northern pipeline is best?" to "Is any Northern pipeline good?" Such a determination, of course. required a much more comprehensive understanding of underlying issues (national development preferences, Arctic and Indian concerns, domestic energy supply outlook) and a different evaluative perspective. Both men represented "the public," but Litt's primary responsibility was to the American gas consumer while Berger saw his client as the typical Canadian citizen, today's and tomorrow's. These basic orientations would affect the nature and scope of their recommendations.

On July 16, 1975, with the Berger Inquiry and the Litt hearings both in full swing, the Canadian NEB announced the findings of its Gas Hearings, held from November 1974 until mid-March 1975. The hearings, called to clarify Canada's domestic energy outlook, offered "uniformily gloomy forecasts," just as the preliminary findings suggested they might. /251 In sum, the NEB report warned that "domestic gas shortages were imminent." Geoffrey Edge, one of the Gas Hearings three panel members, observed:

> The prospects for avoiding a [gas] shortage in the 1970s seem remote....Surely the hearing has brought into focus the urgent need for frontier [Arctic] gas by as early a date as is practicable.

"The NEB's conclusion had never been in doubt," argues Bregha, the Canadian journalist. /252 The hearings, the first general supply/demand assessment by the NEB without an accompanying application, relied almost entirely upon industry testimony, industry data, industry analysis and in the end, Bregha would have us believe, reached industry conclusions.

> It [the outcome] had been dictated to a very large extent by the hearing's very frame of reference based on a "business-as-usual" approach.... The board's orientation towards the status quo meant that the industry favored policies of the past - aggressive exploration and the rapid exploitation of known reserves [in this case, the Mackenzie Delta] - would again be advocated as the solution to future shortages. Inevitably, the possible contribution of energy conservation to alleviate these shortages was grossly underestimated. The board's traditional reliance on industry-supplied information continued to be reinforced therefore by a dependency on an industry-provided philosophy of development as well.

The NEB, Bregha argues, was being used as an instrument by the oil and gas interests, primarily Arctic Gas, to promote Northern pipeline development. The NEB's "shortage" was fabricated by the industry to,. in Commissioner Edge's own words, suggest "[an] urgent need for" Canada's Arctic gas.

Bregha's assertion that the Arctic Gas consortium and its allies duped the NEB enjoys circumstantial support, but may be challenged by alternative explanations. Bregha, for example, may have underestimated the NEB hearing staff's role in report determination. NEB staff, in forecasting imminent domestic shortages, was perhaps less mesmerized by Arctic Gas projections than alarmed by ever-increasing Canadian gas exports to the United States. The NEB staff discovered, with the hearing report, a means to help freeze the export flow south until a more thoughtful assessment of national energy policy, emanating perhaps from the Berger Inquiry, could be developed. Actually, staff had little alternative at this point but to play it safe by accepting industry figures as valid, whether it believed them or not. There was reason to to suspect that the "bubble" was still there - that so-called "unproven" reserves, in Alberta alone, were sufficient to meet all of Canada's domestic and export demands in the foreseeable future. But NEB could not predicate its policy on speculation. Its only recourse was a conservative strategy.

The Trudeau government, as we have seen, appears to have alternately stirred and quelled nationalist sentiment on the energy issue for political purposes. Trudeau could not appear "soft" or generous with gas export applications from the United States, yet he knew how important those exports were to the Canadian balance of payments, U.S.-Canadian relations and Canada's oil and gas industries, which had suffered mightily under post-embargo federal tax policies. Besides, he believed, as did many others, that Canada's gas reserves, discovered and undiscovered, were sufficient to afford substantial American allotments without risking domestic supply.

Predictably, a groundswell of gas export opposition quickly arose in response to the NEB Gas Hearings report. If, as Bregha contends, Arctic Gas and its industry allies did fashion the NEB findings, then its strategy appeared to backfire. The Arctic Gas consortium was, after all, composed of the major American gas transmission and distribution firms. Their primary interest in an Arctic pipeline, of course, was to deliver Alaskan and Northern gas to markets in the United States. Since the NEB decision, which recommended an Arctic pipeline, also discouraged gas exports to America, it eliminated the consortium's chief incentive for pipeline promotion. In other words, the NEB was endorsing a pipeline and at the same time, creating new and serious obstacles to its development. Additionally, Arctic Gas, while assuring an Arctic pipeline, nearly lost the market which made it viable.

The Trudeau government, once again, intervened to contain the groundswell. On July 16, 1975, Macdonald, the Canadian EMR minister, introduced the NEB Gas Hearings report in the House of Commons. "It is

clear," he told his legislative colleagues, "that there will have to be some curtailment of our export contracts and that growth of demand in Canada will have to be restrained until frontier supplies of gas are available." /253 Neither export curtailment nor demand restraint, however, would be substantial. Later in July, Macdonald meet with Frank Zarb, the new FEA administrator, to discuss the export limitation. /254 After brief deliberations, Zarb agreed that under the circumstances some price escalation was necessary to defuse the situation. Canada, in turn, agreed to "phase in the scheduled increase in the export price of gas more slowly, in contrast with the policy it had followed with respect to the oil export tax" shortly after the Arab embargo. Zarb, with regard to domestic action, consented to an Albertan gas price increase, as long as it was levied in stages.

And so, in the wake of the NEB Gas Hearings, the Northern pipeline idea was granted priority status, in the climate of impending gas shortage, while export reductions and price increases, accoring to the Trudeau government's intervention, would be minimal. Arctic Gas had, perhaps, dodged a bullet from its own gun.

In autumn 1974, Canadian and American representatives, with little fanfare and in a semi-official capacity, began preliminary deliberations on a possible gas exchange and pipeline treaty, designed to facilitate the construction of a trans-Canada gas pipeline and the cross-border flow of U.S. and Canadian gas. /255 Discussions continued for over a year and were, in some part, responsible for avoiding any serious misunderstanding over Canadian gas export reductions and price hikes which followed the NEB Gas Hearings report. A central provision of the treaty was an oil exchange policy, in which Canadian crude would flow into midwestern U.S. markets, not serviced by American transmission systems, and an equal amount of American oil, piped to the Northeast, would flow to eastern Canadian markets only partially serviced by the Canadian West.

Treaty initiative came from the United States. American officials considered it essential to congressional consideration of any trans-Canadian pipeline plan. The Congress was not about to allow the FPC franchise a transmission system over which it had little or no legal control, particularly so soon after the Arab oil embargo. Additionally, American institutions could hardly be expected to finance a multi-billion dollar project without a series of firm assurances as to its security or stipulations governing its operations. The Canadians understood this completely. As one U.S. official observed: "The main Canadian interest is to assure U.S. investors that Ottawa and the provinces won't act in a capricious manner [in terms of gas flow or export fees] on the Mackenzie route." /256

The new year, 1976, would finally expedite government consideration of the Arctic gas pipeline prospect. On February 26, 1976, Ford sent legislation to Congress which would expedite governmental choice of an Alaskan gas pipeline system. /260 His bill, called the Alaska Natural Gas Transportation Act, set a deadline on current FPC certification

deliberations, still in preliminary stages (Judge Litt's hearings); authorized the President to select between the two alternatives, Arctic Gas or El Paso; and allowed Congress a short period to assess the choice. Upon congressional approval, the bill prohibited legal challenge to the project.

A variety of Alaska gas bills, for years, had been circulating on the Hill among lawmakers apparently unable to choose between them. Congress, administration officials believed, might be receptive to a process that shifted the burden of selection to the President but still retained a disapproval option for them. Final decision was not expected until after the Canadian NEB, in the midst of its Pipeline Hearings, offered some signal, official or otherwise, as to its preference.

The selection process, due to the international dimension of the Arctic Gas plan, was most delicate. Neither the United States nor Canada, by regulatory review, wished to appear as though it was imposing choice on the other. This was particularly true of U.S. officials, who recognized the electoral backlash Trudeau might face if his government appeared too deferential to American preferences. On January 29, both governments had initialed a draft treaty, in quiet negotiation since autumn 1974, which limited any restrictions they might impose on a pipeline carrying gas destined for another country. /261 While intialing represented only the close of negotiations and recognition of grounds for agreement, rather than formal acceptance, the ceremony was still signified the sensitive and cooperative relations the leaders had established.

Meanwhile, Phillips, president of Westcoast Transmission, was laboring to convince Blair, his Foothills partner, that an Alaska Highway pipeline venture would be a wise and profitable endeavor. Phillips, it seems, was not alone in his regard for the "Fairbanks corridor," as the Alaskan Highway route was often called. After being discarded by the NWP in its very early deliberations, the route was revived twice in 1975 by DOI and FPC staff assessing the Alaska gas issue. First, in the draft environmental impact statement on CAGPL's Arctic Gas proposal (published for comments in June 1975), the Fairbanks corridor was seen to have a very low potential for ecological damage and, FPC staff concluded, "should not [yet] be written off." /262 Later, in December 1975, an Interior report issued to Congress concurred with the draft EIS conclusion on environmental impacts and estimated that its economic benefits, long-term and short-term, would be at least as great.

Congress, with Ford's bill in hand, decided to reevaluate its alternatives for Alaskan gas through hearings, called in mid-March by Jackson, chairman of the Senate Committeee on Interior and Insular Affairs. /263 The hearings, apart from updating information on the two existing; Alaskan proposals, would examine three other policy options: indefinite delay of Prudhoe Bay gas development; gas conversion to methanol, which might be transported by TAPS; and an (Alaskan Highway,) Fairbanks corridor pipeline. Committee chief economist Arlon Tussing, like Phillips, was high on the Alaska Highway option. The El Paso plan,

by his reasoning, was a grave technological risk which, in any event, would deliver gas to California, a market his figures told him would soon be saturated. Arctic Gas' ambitous designs and broad Mackenzie Delta sweep, through vast Arctic areas, threatened hugh cost overruns. He viewed an Alaska Highway project, by contrast, more flexible than El Paso in terms of markets and, in engineering design, more feasible than either announced plan.

Bregha reports that Tussing, while interviewing Blair on AGTL's methanol subsidiary for the Senate hearings, advised the Canadian businessman to consider sponsorship of the route. /264 Blair, having been repeatedly approached by Phillips on the same subject, began to give it additional thought. AGTL involvement in an Alaskan gas venture, he knew, could endanger Maple Leaf, either by posing a superior alternative to it or by damaging its integrity as an all-Canadian enterprise. Blair's promotion of the project was predicated on bold nationalistic rhetoric, which his CAGPL opponents could easily turn against him if he now joined the Alaska gas race. He could be accused of falling victim to the same imperialistic impulse he had so often attributed to Arctic Gas boosters, and this loss of credibility could destroy Maple Leaf's prospects. On the other hand, he could insist that any Alaskan association could be contingent on adherence to the Blair philosophy, just as the early CAGPL alliance had been. And of course, if Phillips was right about an Alaskan link imperative, Maple Leaf was doomed anyway. Blair would, at Tussing's request, address the Senate committee on March 24 concerning the viability of a Fairbanks corridor pipeline, but he would not propose that AGTL, alone or in association with Foothills, should build it.

Two further developments would nudge Blair closer to the Fairbanks corridor project. First, Phillips enlisted McMillian, chairman of Northwest Pipeline Corportation, to sponsor the Alaskan section. McMillian, Westcoast's best customer, had established a working relationship with AGTL and was proving a bold and ambitious manager. He was also outside the "big oil" establishment, which appealed to Blair and remained consistent with his untraditional approach to certification. Second, the final Alaska Natural Gas Transportation System EIS, issued by DOI on March 29, again recognized the ecological advantages of a Fairbanks corridor pipeline. The EIS claimed "the [Alaska Highway] route, because it follows the Alyeska Oil Pipeline and other transportation routes through Alaska and Canada, would avoid some of the [negative environmental] impacts associated with" any other pipeline route. /265

McMillian, on April 6, made a formal bid for one to two Tcf. of Alaska's Prudhoe Bay gas in a letter to the state's Commissioner of Natural Resources. /266 "If a satisfactory commitment to Northwest is made," McMillian wrote, "Northwest will sponsor and make all necessary applications in support of a Fairbanks-Alcan Highway pipeline alternative." /267 The bid was accepted, and a new hat was in the ring. The partnership became official on April 23, when AGTL's Blair, Westcoast's Phillips and Northwest's McMillian agreed to sponsor a new pipeline project, generally known as Alcan, at a Calgary meeting. "A letter of

intent," Bregha writes, "outling the obligations of the three companies, was drafted and [would be] signed on May 5." /268 The new association allocated $6 million to finance planning, already underway in Foothills and Northwest offices, and otherwise pursue certification

The preliminary plan, released to the press and filed with the FPC on May 10, proposed a 42-inch (later, 48-inch) diameter pipeline from Prudhoe Bay southwest about 550 miles along the TAPS corridor to Fairbanks, where it would turn southeast another 180 miles along the Alaska Highway to the Alaska-Yukon border. It would pass, by various pipe diameters, through the southern Yukon, near Whitehorse, and northern British Columbia, where it would connect with Westcoast Transmission lines. The pipeline would continue to drop south into Alberta, integrating at various points with the vast AGTL network. At Caroline, in southern Alberta, the line would split into an West Leg, bound for San Francisco, and an East Leg, toward Chicago. This southern delivery system, later described in part as Phase I or the "prebuild," was essentially identical to the Arctic Gas model. PG&E, through a subsidiary, would sponsor about 880 miles of transmission line from Idaho into California. Northern Border Pipeline Company, a consortium of American gas transmission firms led by the Omaha-based Northern Pipeline, would build 1,130 more miles of pipeline from the Saskatchewan-Montana border to Illinois.

The Alcan Pipeline Company, a new Northwest Pipeline subsidiary chaired by McMillian would construct, own and operate the Alaskan section. AGTL and Westcoast, through five different Foothills subsidaries, would build and manage over 2,000 miles of new Canadian pipeline. In all, the project would comprise 4,800 miles of pipe, with a daily deliverable of two Bcf, expandable to 2.4 Bcf. (later, 3.2 Bcf.). The project's cost was estimated at about $5 billion, with the Alaska segment alone priced at $2.3 billion. Additionally, a gas conditioning plant, valued at as much as $1 billion, was planned for the North Slope. The Alcan group expected it to be built and financed by the Prudhoe Bay producers. "Our studies," McMillian told reporters, "and those of the FPC staff, and the Department of Interior and leading environmental groups, conclude that a Fairbanks corridor-Alcan highway route would have minimal environmental impact because it would affect no undisturbed wilderness areas. And by using Canadian pipelines, overall construction time would be shortened by approximately two years and costs would be lower than those estimated by two competing projects." /269

The application was in, but would it be considered? The critical issue now for the Alcan group was whether a new contestant could still enter the race, one that had already begun. Judge Litt's FPC hearings on the Arctic Gas and El Paso plans, were almost a year old. Would the FPC, at this advanced stage of deliberation, even entertain a new application? The same question could be asked of the Canadian NEB, about to begin pipeline hearings now that the Gas Hearings had closed. Finally, Congress would likely act soon on Ford's Alaska Natural Gas Transporation Act (ANGTA), which aspired to simplify selection, not complicate it with a new alternative. Answers would come only after October 1976, when Congress passed the ANGTA.

FIGURE 1-8: Alcan Sponsor Group

The Alcan Pipeline Company ("Alcan") was a wholly-owned subsidiary of Northwest Pipeline Corporation, a Delaware corporation with its principal place of business in Salt Lake City, Utah. Northwest Pipeline owned and operated a 4,300-mile system for the transportation of natural gas to the states of Washington, Oregon, Idaho, Nevada, Utah, Wyoming and colorado. It is a wholly-owned subsidiary of Northwest Energy Company, also a Delaware corporation.

The Canadian sponsors of the Alcan Project were the Alberta Gas Trunk Line Company Limited ("AGTL") of Calgary, Alberta; the Westcoast Transmission Company Limited of Vancouver, British Columbia; and the Foothills Pipe Lines (Yukon) Ltd., a joint venture of AGTL and Westcoast Transmission. Together, these companies owned and operated approximately 75,00 miles of gathering lines and main transmission pipelines which extend throughout the Provinces of Alberta and British Columbia. Moreover, they gathered and transported over 90 percent of the natural gas which is consumed in Canada or exported to the United States.

An initial Alcan "42-inch" proposal was developed in spring 1976 and filed with the Federal Power Commission on July 9, 1976. FPC Administrative Law Judge Nahum Litt, in the midst of his hearings on the Alaska Natural Gas Transportation System, was directed by the President and the Congress to include the Alcan submission in his considerations. In March 1977, a "48-inch" alternative proposal was filed, which would become the group's leading project plan.

In September 1977, President Jimmy Carter selected the Alcan project as the Alaska Natural Gas Transporation System. In March 1978, the Alcan group would enlist several other major U.S. gas transmission companies and reorganize as a new partnership, the Alaska Northwest Natural Gas Transportation Company. Under the direction of the Alaska Northwest Pipeline Company, yet another Northwest Energy subsidiary which served as the partnership's sponsor, the Alaska Northwest group would sponsor the ANGTS Alaska Leg.

While the gas proposals filled the newspapers, few had noticed that TAPS, by Autumn 1976, had snaked its way across Alaska. That November, it would be 91 percent complete and, after a flurry of early spring construction, would be operative by May 1977. The first oil entered the system June 20, 1977 but an explosion eighteen days later along the line at Five Mile, north of the Yukon River, destroyed pump station 8 and delayed full mobilization for another year. Nevertheless, the "troubled colossus," as one journalist had described TAPS, was essentially in the ground by Christmas 1976, and federal officials were anxious to assess its progress. /270

The GAO, in a second a TAPS project update, found that Alyeska's earlier environmental problems, associated with erosion control, oil spills and sewage treatment, had not been repaired. /271 A DOI report, in 1976, suggested that Alyeska "seems to repond to erosion control problems only when it becomes clear that pipeline construction activity would be shut down." /272 Alyeska, in August 1975, initiated action to reduce oil spills from camp fuel systems, but according to the GAO, "there was no reduction in the amount of spillage as a result of the [new] fuel handling [procedures]. By November 30, 1976, about 376,000 gallons of oil had run off on to the Alaskan tundra.

Quality control, continued to pose the most serious problem. An Alyeska audit of 30,800 field welds, conducted in 1975 but not disclosed by the company until May 1976, identified as 3,955 questionable. /273 Findings also suggested 154 duplicated or falsified radiographs, 298 missing radiographs, and an additional 1,000 dubious welds buried in "critical locations," such as river crossings or permafrost, where pipe could be uncovered only at great cost and high risk of environmental damage. Alyeska argued that despite the high incidence of deficiencies, most were minor and would not compromise the line's integrity. Furthermore, repair costs, the company explained, would range near $55 million and cause a 12-month delay, incurring additional expenses. The weld issue was further inflamed when the GAO, after a brief study, accused the company of understating defects and Arthur Andersen & Co., hired by DOI to study Alyeska's figures, questioned the integrity of the company's records.

Congress, to quell public concern, decided to conduct its own investigation in summer 1976. /274 It concluded, among other things, that Alyeska's quality control system had never been properly designed or administered. There were many examples of abuse. Testimony indicated that during a two-day period in March 1976, during mainline pipe welding, no Alyeska quality control inspector had even been on the job site. Federal inspectors did not escape criticism. Many, apparently, noticed such abuses but failed to report them in order to protect the Alyeska personnel with whom they worked. Alyeska inspectors, cooperating closely with the federal inquiry, had apparently been threatened with disciplinary transfer and even bodily harm.

A task force of White House staff and high-ranking bureaucrats, led by John Barnum, Transportation's deputy secretary, was dispatched to Alaska by President Ford to develop an action plan for the welding

debacle. The group, after its visit, criticized Rollins for not discovering the welding deficiencies earlier or halting construction immediately after he had learned of them. However, it also agreed with Alyeska that massive pipeline unearthing and rewelding was not necessary to insure line safety. Ford, accepted these conclusions. A subsequent Transportation study that autumn claimed that the company's QA/QC system had been improved and serious welding problems were no longer occuring. (GAO analysts, in a final review of the project in summer 1978, would contest this. /275)

In the end, the federal government would not be pleased with its management of TAPS. Disappointments derived primarily from two sources. First, oversight suffered from a reactionary, rather than an anticipatory, posture. GAO, in its reports, claimed that government did not try to identify and resolve project problems before they appeared in the field. DOI, for example, could have avoided many environmental headaches by simply requiring greater site-specific geological data and challenging Alyeska's unproven technology prior to construction. Insistence on a properly formulated and applied QA/QC system at the outset may have avoided the project's major crisis, the welding scandal.

Second, oversight lacked coordination and centralization. The Skinnarland study, commissioned by DOI to assess TAPS, found that policy and enforcement inconsistency was a major cause of Alyeska's own management problems. /276 Field jurisdiction, the study maintained, was not clearly distributed between federal and state agencies, or among various federal agencies with shares of the regulatory action. Consequently, too many cooks spoiled the soup. Interagency disputes and Alyeska appeals for relief were heard by a TAPS grand council, often unable, as a committee, to render clear and summary judgment. As President Jimmy Carter, rendering his Decision on gas line alternatives in 1977:

> A frequently cited problem with construction of the Alyeska pipeline was the multitude of Federal Government agencies that severally prescribed and enforced terms and conditions with minimal coordination of purpose or effort. Uncoordinated government actions can cause needless construction delays and cost increases. /277

TAPS, as early as 1976, posed lessons for both pipeline builders and governmental overseers. The sponsors had learned that the transport of energy across the austere. forbidding Arctic was only superficially a geographic and technical exercise. True, the icy crevasses of the Brooks Range, the permafrost along the Sagavanirkto River basin and even the polar bears which roamed the Phillip Smith mountains were all impressive natural obstacles, ones which required considerable engineering skill, geological expertise and ecological sensitivity to surmount. Arctic roughnecks knew Prudhoe Bay would not easily surrender its oil, but they knew too that enough will, money and know-how would nevertheless draw it from the ground.

But, the principal obstacles to Alaskan oil pipelining, instead, were political and regulatory. Administrative review, coupled with legal objection, had froze TAPS when the Arctic winter could not. Pipeliner's found that crossing the Yukon River with 48-inch diameter pipe was a minor accomplishment when compared to filing a massive environmental impact statement, satisfying legitimate native claims or pacifying determined conservationists. Only after Congress intervened to circumvent the regulatory snarl and endless litigation, did the pipeline, and Alaskan oil, finally reach Valdez.

The regulatory rules of the game had changed at TAPS mid-passage, as NEPA made governmental involvement far more comprehensive than it had ever been before. In a sense, Alyeska had been victimized. Had the project been planned and built even five years before, the company would have enjoyed a much freer hand. The TAPS designers in 1968 doubtless figured to resolve some of their problems on site, as they had traditionally done with a hundred pipeline projects before. NEPA, however, would no longer allow that kind of discretion. Pipelining, in the Arctic context, was in large part redefined from a private to a public enterprise between 1968 and 1976. The federal regulator became the new partner, representing in particular the emergent environmental interest. His role, in a gas development project, would become larger and more influential.

The oil line sponsors also learned, perhaps the hard way, that cooperation with government could promote facilitation by government. As government could retard progress, so it might also, in another form, expedite it. Government could, in some respects, be a willing instrument of development, if the pipeline acknowledged government's new obligation to pattern and condition some of its "private" activities. This realization would not be lost on the new gas pipeline development groups, which had, through increasing gas regulation over the past 30 years, come to accept the governmental partnership.

The regulators, too, had benefited from their TAPS experience. Government, as the oil pipeline monitor, had as often appeared the problem's source as its solution. Its reactionary concept of oversight had identified deficiencies, but not soon enough to soften their effects. PL 93-153, the trans-Alaska pipeline authorization act, had demonstrated, in a retrospective way, the advantage of prospective governmental involvement. Sound regulatory government served as a guide as well as a disciplinarian. By careful preliminary review, clear and consistent guidance, and consolidated authority, potential ambushes would be discouraged from the start and the government might not have to ride, with eleventh-hour legislation, to its own rescue.

TAPS, the "troubled colossus," would prove, in the end, an eminently successful project and the government's regulatory self-indictment would be, perhaps, too strong. For as the pipeline industry had to learn to suffer increased regulation, so the government had to learn its proper administration. In retrospect, given the dramatic change in orientation signified by NEPA-like legislation, in response to the environmental

movement and the oil crisis, one cannot really have expected the transition, manifest by the TAPS experience, to have occurred without major incident. If the new governmental regulatory rigor must be blamed for complicating construction woes, it must also be praised for helping, in an important way, to ensure the pipeline's operational triumph. The key to governmental oversight success, in the modern world, was not to do less, but to do more, better. The government's responsibilities would not decrease. It could not simply absolve itself of the legal obligations imposed upon it. It had to do a bigger job, but do it with greater qualification, skill and acumen. The gas pipeline project would provide its opportunity.

By autumn 1976, corporate posturing was nearly over for the Alaska Natural Gas Transportation System (ANGTS), as DOI officials began to call the project idea. Congress, as it had three years before with TAPS, would soon intervene to champion the ANGTS, but this time in an attempt to avoid future encumberment, rather than to escape it and in the present

The Alaska Natural Gas Transportation Act

On October 22, 1976, the U.S. Congress considered and passed the Alaska Natural Gas Transportation Act (ANGTA) "to provide the means for making a sound decision" in selecting a transportation system to deliver Alaska natural gas" to the "lower 48" United States. /1 For nearly eight years, American and Canadian governments had received and assessed a small variety of major proposals for transmitting Arctic gas to southern markets. Among these, three projects were considered primary contenders for government certification: the Arctic Gas Mackenzie Valley pipeline, the El Paso Alaska tanker transport plan, and the Alcan Alaskan Highway pipeline.

The Arctic Gas plan, from the beginning, was the favorite. It was the oldest (1969), longest (4,512 miles) and most elaborate of the Arctic gas projects. /2 Endorsed and co-sponsored by the leading Prudhoe Bay energy producers, Exxon, ARCO and Sohio, and promoted by Canada's largest transmission firm, TransCanada PipeLines, Arctic Gas appeared able to attract requisite financing and accumulate political support on both sides of the border. The project's operating group was the Canadian Arctic Gas Pipeline Limited (CAGPL), led by TransCanada's Verne Horte and W.H. (Deke) Mack, chairman of Michigan Wisconsin Pipe Line Company. /3 CAGPL, initially, included most major American and Canadian pipeline firms.

The plan proposed overland pipeline construction from the Alaskan North Slope southeast along the Arctic Ocean to Canada's Mackenzie Delta, where new gas reserves had been discovered and more were projected. There, the 48-inch line would turn south through the Mackenzie Valley into southern Alberta, where it would split into two smaller lines for southern delivery. One leg would turn southwest through the U.S. Pacific Northwest to San Francisco, where it would service the many California customers of Pacific Gas & Electric (PG&E). A second leg would, under the auspices of the Northern Border Pipeline Company, turn southeast across the American Great Plains into the U.S. Midwest. This line, terminating near Chicago, would service midwestern and, through interconnected existing systems, eastern American consumers.

The El Paso Alaska system, unveiled in 1972, provided a much different concept. /4 This plan, promoted by Howard Boyd, chairman of the El Paso Natural Gas Company, proposed a 42-inch chilled gas pipeline along the TAPS corridor from the Prudhoe Bay field about 809 miles across the Alaskan interior to Point Gravina, Alaska, a terminal on Prince William Sound. At the terminal, gas would be converted to liquid natural gas (LNG) and shipped, by cryogenic tankers, about 1,900 miles south along the Pacific Coast to a new receiving terminal in southern California, near Point Conception in Santa Barbara county. There, the LNG would be revaporized and, via several short transmission pipelines, channeled into existing delivery systems for western and southwestern U.S. distribution.

El Paso enjoyed two major advantages over Arctic Gas. First, it was an "all-American" project, which appealed to national security interests, highly sensitized after the 1973 Arab oil embargo and subsequent oil price escalation on world markets, and avoided negotiations with the Canadians, who had recently raised costs and imposed quotas on export gas to the United States. Second, it was somewhat less expensive. The Arctic Gas pipeline, in 1976 dollars, was projected at $7.27 billion; El Paso, by comparison, was estimated at $6 billion.

It was, however, not without deficiencies. Perhaps its most imposing problem involved uncertain technology. Gas liquefaction was quite possible, but conversion processes wasted as much as a third of the fuel and cryogenic transport was most precarious. Additionally, one could challenge the "all-American" security contention by asking if a natural gas tanker, sailing in Pacific waters, was really more "secure" than a pipeline buried across Canada. Finally, El Paso targeted western United States markets, regions already well supplied, and ignored the American Midwest and East Coast, where shortages were most pronounced.

The third challenger, the Alcan Alaska Highway project, grew out of discontent within the CAGPL alliance. /5 S. Robert Blair, chairman of the Alberta Gas Trunk Line (AGTL), a CAGPL member and the major transmission firm in western Canada, left the group in September 1973 to form Foothills Pipe Line Company with Westcoast Transmission, a British Columbia gas concern. Blair's troubles with CAGPL revolved around its reluctance to guarantee Canadian ownership, service to his Canadian customers or integration with existing delivery systems, especially his own AGTL network. After flirting with an all-Canadian line down the Mackenzie Valley, Foothills refashioned an early Westcoast idea to run an Alaskan gas pipeline south along the Alaskan Highway south through western Canada into the United States. /6

The Alcan pipeline, initially 42-inches wide, would run along the TAPS right-of-way for about 550 miles into southeastern Alaska to Delta Junction. There, instead of continuing south toward Valdez, the Alcan line turned southeast along the Alaskan Highway corridor across Yukon Territory, the northeast corner of British Columbia and into central Alberta. At James River Junction, about 100 miles north of Calgary, the line split into two legs and followed American routes similar to the Arctic Gas scheme to San Francisco and Chicago. /7

For this effort, Blair enlisted John G. McMillian, an American oil and gas entrepreneur who several years before had acquired the Northwest Pipeline Corporation, a large western gas delivery system forceably divested from El Paso by the U.S. Supreme Court after a decade of litigation. McMillian, organizing project allies into the Alaska Northwest consortium, would manage and the critical Alaskan segment with his Northwest Alaskan Pipeline Company (NWA) subsidly. Along with PG&E, he would control U.S. western delivery through an adjunct Western Delivery System, which stretched from Oregon across the Rocky Mountains into the American Southwest.

On January 23, 1975, Nahum Litt, a Federal Power Commission (FPC) administrative law judge, was assigned El Paso Alaska Company Docket No. CP 75-96, the consolidated certification case of Arctic Gas and El Paso Alaska. /8 Early that May. certification hearings began. They would continue for more than 18 months, constituting an official record of 253 volumes of transcript (some 45,000 pages), about 1,000 exhibits and innumerable items by reference. On July 9, 1976 - over 13 months after the Litt investigation had begun - Alcan filed the third competing application. Litt was instructed to include Alcan in his deliberations.

By June 1976, four bills had been introduced into the Senate and five more in the House of Representatives. /9 Of these bills, two endorsed El Paso Alaska, four supported Arctic Gas and three others recommended procedural amendments for certification review. The leading bill, introduced by Sen. Walter Mondale (D-Minn.), would have required the FPC to certify Arctic Gas within 60 days of legislative enactment. Mondale, who organized a powerful bipartisan alliance of gas-conscious eastern and midwestern congressmen, was persuaded by Thomas Enders, U.S. ambassador to Canada, to delay action. Enders feared the legislation would anger the Canadians, who, in their deliberation over the Northern pipeline plans, might reject Arctic Gas simply because the United States appeared to be forcing it on them. He believed that even a procedural bill, designed to expedite consideration, might only increase Canadian intransigence.

President Gerald R. Ford, by Autumn, lost patience with the FPC's meticulous certification process and congressional indecisiveness. /10 The nation, since 1973, had experienced a startling decline in both domestic natural gas reserves and production. Import deliveries, including those from western Canadian suppliers (such as Blair's AGTL), had been significantly curtailed. America, particularly its Midwest region, was running low on, occasionally running out of natural gas. In November 1973, after the United States was shaken by the sudden Arab oil price escalation and embargo, the President and Congress passed the TAPS Authorization Act, which ended a three-year legal stalemate imposed by anti-TAPS conservationists and enabled Alyeska to build its oil line. Now, crisis threatened once again. With certification mired in bureaucratic red tape and gas supplies dropping precipitously, legislative intervention appeared the only immediate recourse, Canadian sensitivities notwithstanding. Congress, at the president's request, fashioned a procedural bill to somehow speed the project selection process and to shift control from the regulatory bureaucracy into the White House.

On July 1, 1976, the Senate considered and passed the Alaska Natural Gas Transportation Act of 1976 (ANGTA). Two months later, on September 30, the House passed a very similar bill. The following day, the Senate agreed to House amendments and three weeks later, Ford signed the ANGTA into law. /11

The act was passed by Congress because:

- A natural gas supply shortage existed in the United States;
- Large reserves of natural gas in Alaska could significantly alleviate this supply shortage;
- The expeditious construction of a viable natural gas transportation system for delivery of Alaskan gas to southern markets was viewed as in the national interest;
- The magnitude of decision, respecting national energy policy, international relations, national security and economic and environmental impact, was sufficient to require presidential and congressional involvement. /12

The act intended to expedite pipeline selection, construction and initial operation by (1) "limiting the jurisdiction of the courts" over federal actions and (2) "permitting the limitation of administrative procedures" which might be determined as excessive for sound consideration of alternatives. It established a four-step timetable for route consideration and selection:

1 The FPC was directed to offer a Recommendation to the President no later than May 1, 1977. /13
2 Other state and federal agencies had until July 1 to comment on the FPC Recommendation. Several issues were specified for consideration, including environmental impacts, safety, international relations, national security, financing and anti-trust. The President's Council on Environmental Quality (CEQ) was instructed to aggregate observations of any "interested persons" into a single report. /14
3 The President, no later than September 30, shall issue a Decision determining if an Alaska Natural Gas Transportation System (ANGTS) is viable and if a competing project alternative is desirable. If so, he must (a) describe the nature and route of the preferred system; (b) designate an entity to construct and operate such a system; (c) identify the major facilities essential to that system and (d) specify any legal provisions necessary to the grant of a certificate of necessity and convenience. Furthermore, "he shall appoint an officer of the United States...or designate a board...to serve as Federal inspector" of the ANGTS. /15

The Federal Inspector was to establish a joint surveillance and monitoring agreement with Alaskan officials; to monitor compliance with all applicable federal laws; to insure effective project planning and execution; to compel submission of necessary information, by subpoena if necessary; and to report quarterly to the President and to each house of Congress. /16 The inspector was also granted supplemental enforcement authority, which allowed him/it to issue compliance orders or bring civil actions. /17 The seed of a new, influential federal agent, with intensive if narrowly defined coordinative and monitoring responsibilities, had been planted. Its precise form would be defined later by subsequent events.

The President was also to conduct a financial analysis of the approved system. His report, the act states, "shall...[include a] recommendation concerning the use of existing Federal financing authority or the need for new Federal financing authority." /18 In other words, some form of governmental financial assistance was considered a possibility by the Congress.

4 Within 60 days after receipt of the President's Decision, the congress was required to enact a joint resolution endorsing his recommendation. During this period, the FPC would also evaluate the President's choice and the CEQ, if necessary, was to assess its environmental impacts. If, on the other hand, the Congress failed to approve the Decision, the President had 30 days to recommend a new course of action. /19

Three addititional ANGTA provisions are worthy of note. First, the act included a "common carrier" provision. It stipulated that "no person seeking to transport natural gas in the [ANGTS] shall be prevented from doing so or be discriminated against in the terms and conditions of service on the basis of degree of ownership, or lack thereof..." /20 Second, an authorization for appropriation was immediately granted for the Federal Inspector, indicating the Congress's interest in rapid establishment of the capability. /21 Finally, the act included a rigorous affirmative action clause which applied to "any activity" related to the project: "...no person shall, on the grounds of race, creed, color, national origin, or sex, be excluded from receiving, or participating in any activity conducted under, any certificates, permit, rightof-way, lease, or other authorization granted or issued pursuant to this Act." /22

The President's Decision

On February 1, 1977, about three months after ANGTA passage, FPC Judge Litt finally issued his Initial Decision. /23 He wrote:

> In a sense, there is a consensus on the part of the Commission Staff, the most popular consuming states taking an active interest, and an array of pipelines and distributors serving huge sections of the country that if any pipeline applicant must be chosen now, their best interests would be served by choosing Arctic gas. The evidence in this record clearly supports that conclusion. The Arctic Gas application is superior in almost every significant aspect when compared to El Paso. Certification of its proposal, subject to appropriate conditions, will bring more energy to market cheaper and more reliably than El Paso and will do so in an environmentally acceptable manner. It is found that Arctic Gas' prime route should be certificated, including both western and eastern legs. /24

Litt, however, added that "El Paso, too, has a viable plan which technically can be built in an environmentally sound manner and which can deliver natural gas to all U.S. markets." It would be certificated, he added, "if it were not for the clearly superior Arctic Gas application."

As to Alcan, "no finding from this record supports even the possibility that a grant of authority...can be made" to it. Litt and his staff had spent most of their time since the ANGTS decision assessing the Alcan plan, or rather, a groundswell of Alcan variations. /25 The problem, it appears, was that Blair, McMillian and Kelly H. Gibson, chairman of Westcoast Transmission, were themselves having problems collectively configuring their combined project. Alcan, in its early stages, was essentially an uneven reconciliation of McMillian's Alaskan project, Gibson's old Mountain Pacific project, which included a pipeline down the Alaskan Highway into British Columbia from Yukon gas fields, and Blair's Maple Leaf plan, the all-Canada Mackenzie Valley pipeline which linked into his extensive AGTL network. The FPC had offered a preliminary opinion on the Alcan submission(s) on December 7, 1976 - nearly two months before Litt's Initial Decision. According to Francois Bregha, a French Canadian journalist who has studied Northern energy development, "it [the preliminary FPC opinion] was a devastating attack."

> The FPC staff accused Northwest [Alcan] of presenting a completion schedule that was unrealistic, cost estimates that were indefensible, a transportation tariff that was inequitable. /26

This attitude toward Alcan was reflected by Litt in his Initial Decision. He roundly criticized Alcan's confused routing, financing and scheduling arrangements. Furthermore, he added that the project's design "is clearly neither efficient nor economic since the [42-inch diameter]

pipeline is undersized." Litt would conclude: "As presently proposed, even with Alcan's willingness to build anything anyone wants..., there is not enough left of its original proposal to serve as a basis for granting its application." /27

Litt's determinations, however thoughtful and extensive, were still preliminary. Even the upcoming judgment of the FPC commissioners, responsible for independent deliberation, was, under ANGTA, only advisory to the President. The White House would make its own assessments before selection. The Alcan group still had an opportunity to make its strongest case and, cognizant of the FPC criticisms, it struggled with even greater resolve to put its proposal in order. Alcan quickly developed an "Alternative 48-Inch Proposal" (Alcan II), which appeared to overcome many of the problems, particularly those concerning routing and design. /28 Alcan increased its Arctic pipeline diameter to 48 inches, to improve efficiency, and abandoned its Mackenzie Valley line, a residual of Maple Leaf which was coming under increasing environmental attack.

Apparently, these changes had some effect. On May 2, 1977, the commissioners, in a Recommendation to the President, advised that "an overland system through Canada be selected, if such a route is made available by the Government of Canada on acceptable terms and conditions." /29 The panel, however, was split on which trans-Canadian route was preferable. Commission Chair Richard L. Dunhan and Commissioner James G. Watt, later a controversial Interior Secretary under President Ronald Reagan, recommended Alcan while Commissioners Don S. Smith and John H. Holloman III selected Arctic Gas. "Based on today's circumstances," they wrote, "reasonable men can disagree on the right course of action." /30

The commission found that "all three proposals [were] technically sound and economically feasible and that a system should be built to bring the natural gas to the lower 48 market." /31 An overland route was considered superior to El Paso, it decided, "because of its greater reliability, easier expansibility, greater efficiency in terms of gas consumed in route, and lesser environmental impact." All three projects were estimated by the applicants to cost, in 1975 dollars, from $6.5 to $6.7 billion. Inflated costs could run to $10 billion or more. The commissioners added:

> There are risks of cost overruns and delays in completion... but in each instance the risk is well within an acceptable range. There is virtually no chance than any system would become so costly as to be uneconomic. /32

Although federal financial assistance was not recommended, rolled-in pricing (averaging Alaskan gas prices with all other gas in the purchaser' system) was seen as essential to project financing. A choice had to be made on "who shall bear the ultimate risk of project failure, severe interruption, or massive cost overruns - private investors or consumers." If investors were chosen, the panel observed, the rate of return would have to be between 11 and 18 percent, an adequate incentive to invest.

Environmental impacts of any of the three projects could be avoided or substantially mitigated, the commissioners believed. Of the three, Alcan "promises the least environmental impact, if proper mitigative actions are taken."

The commissioners, particularly Arctic Gas advocates Smith and Holloman, clearly stated that their selections were contingent upon Canadian deliberations. Attention now turned north to Canada, where disposition would apparently be crucial. The first, and perhaps decisive, Canadian assessment of Northern pipeline prospects was offered when the Mackenzie Valley Pipeline Inquiry (MVPI) issued its initial report, Northern Frontier, Northern Homeland, on May 9, only seven days after the FPC Recommendation. /33 The MVPI had been initiated in March 1974 by Pierre Elliot Trudeau's Liberal Government, generally very sympathetic to Arctic pipeline ventures. The Liberals, also anxious to prove their sincerity in environmental matters, appointed Justice Thomas R. Berger, a reknown native rights attorney then sitting on the British Columbia Supreme Court, to lead an assessment of the environmental and socio-economic impacts of Northern pipelining. Berger, after building a large, expert staff, spent more than three years conducting hearings and studying Canadian Arctic life.

Few documents have ever captured the imagination of the Canadian people as completely as Northern Frontier, Northern Homeland. The North, Berger wrote,

> ...is a frontier, but it is a homeland too, the homeland of the Dene, Inuit and Metis, as it is also the home of the white people who live there. And it is a heritage, a unique environment that we are called upon to preserve for all Canadians. /34
>
> A gas pipeline will entail much more than a right-of-way. It will be a major construction project across our northern territories, across a land that is cold and dark in winter, a land largely inaccessible by rail or road, where it will be necessary to construct wharves, warehouses, storage sites, airstrips - a huge infrastructure - just to build the pipeline.... /35
>
> There is a myth that terms and conditions that will protect the environment can be imposed, no matter how large a project is proposed. There is a feeling that, with enough studies and reports, and once enough evidence is accumulated, somehow all will be well. It is an assumption that implies the choice we intend to make. It is an assumption that does not hold in the North. /36

Berger's conclusion:

> There should be no pipeline across the Northern Yukon [as proposed by Arctic Gas]. It would entail irreparable environmental losses of national and international importance. And a Mackenzie Valley pipeline [proposed by Arctic Gas, but abandoned by Alcan] should be postponed for ten years. If it were built now, it would bring limited economic benefits, its social impact would be devastating, and it would frustrate the goals of native claims. /37

Also during this time, the National Energy Board (NEB), the Canadian federal agency responsible for FPC-type certification of such projects, was conducting its own hearings on Canadian segments of the Arctic Gas and Alcan (or Foothills, in Canada) proposals. The NEB would provide the second of a "one-two punch" which would knock Arctic Gas, the early favorite, out of contention. In its July 4 report, Reasons For Decision: Northern Pipelines, the board flatly denied the CAGPL application. Arctic Gas, the NEB ruled, was based "on incompatible time constraints; on the one hand the urgent need to connect Alaska gas to the United States markets, and on the other, the need for more time to resolve socio-economic concerns before a pipeline could be built along the Mackenzie Valley." /38 Additionally, the project's route on "the coast of the northern Yukon is environmentally unacceptable to the Board..." Berger's conclusions, on both the Mackenzie Valley and the northern Yukon had impressed the board.

A Canadian journalist, assessing the NEB decision, believes the board "did not so much embrace Alcan as it backed away from Arctic Gas." /39 Alcan, for all its frantic activity and multiple designs, shifted its position so frequently that project documentation could not keep pace. The NEB, like Litt and the FPC before it, complained that evidence sufficient for full consideration of Alcan's "project" simply did not exist. Nevertheless, what Litt had disparaged as Alcan's "willingness to build anything anyone wants" - its flexibility - was now proving, in the highly politicized certification struggle, a valuable asset.

For example, the MVPI findings encouraged Alcan's final abandonment of a Mackenzie Valley corridor pipeline (Maple Leaf variation), but Blair quickly made provision for a pipeline connection, known as the Dempster lateral, from the Alcan's main Alaskan highway line up through central Yukon to the Mackenzie Delta. The lateral, south of the Yukon's environmentally-sensitive northern, coastal area, allowed for a delta spur later, when Canadian demand for Arctic gas increased. As the board observed:

> A crucial question in regard to any land bridge proposal for the transmission of United States gas through Canada is whether the project has the potential, with some degree of certainty, for bringing Canadian gas from the north to Canadian markets. The Foothills (Yukon) project has such potential in the form of a Dempster link. /40

Additionally, the NEB report noted a "preferred" detour of Alcan II through Dawson, a Yukon city about 120 miles off the proposed Alaskan Highway route near the Alaskan-Yukon border crossing. /41 The Canadians believed this would greatly facilitate the future Dempster lateral. The board explained:

> ...the potential Canadian need for a Dempster link creates a current need to consider a realignment through Dawson of the Foothills (Yukon) pipeline to ensure and to facilitate a more economic transmission of Delta gas to Canadian markets... Northwest Pipeline,

> the United States co-sponsor of the Alaska Highway project [led by McMillian], stated in argument, "A possible modification can be made, if determined to be in Canada's interests, by moving the line up to Dawson City, thus providing a closer connection for Delta gas." /42

Although this stipulation was later dropped by the NEB, Alcan's willingness and ability to address it apparently enhanced its application.

In any event, the NEB did believe that "the Foothills (Yukon) [or Alcan II, alternative 48"] project, although further engineering design, environmental and socio-economic information is to be filed prior to approval of final design,...offers the generally preferred route for moving Alaska gas." /43 The evaluative frame for project selection was now set. The United States could hardly choose Arctic Gas if the Canadians rejected it. And, as the FPC counseled an overland route, Alcan appeared to hold an advantage over El Paso. As Bregha, in summarizing the NEB decision and its implications, concludes:

> Arctic Gas, the most powerful consortium of oil and gas companies ever assembled in Canada, which had spent $150 million in pursuit of its application and had once enjoyed the overt support of the [Canadian] government, had lost its bid to build [an Arctic] pipeline to a small partnership of western transmission utilities that was barely a year old. /44

On April 19, 1977, the Canadian government had established a second socio-economic study of pipeline development, a "mini-Berger Inquiry" in the Yukon region. /45 As the MVPI had focused on the Arctic Gas plan, the second investigation, led by Kenneth M. Lysyk, dean of the University of British Columbia law school, was aimed at the Foothills (Yukon) proposal. The Lysyk report, released on July 29, recommended a construction start delay of one year (to August 1981) to settle native claims but otherwise endorsed the Alcan Yukon route. This would be, for Arctic Gas, the final blow. The same evening, July 29, 1977, Arctic Gas withdrew its FPC application and eight of its American members joined the Alcan project.

Naturally, these Canadian developments were being watched with great interest in the United States. President Jimmy Carter had placed the ANGTA initiative under presidential assistant James R. Schlesinger, who immediately established a White House ANGTS Steering Committee. The committee, led by Leslie J. Goldman, a regulatory attorney who had left the staff of Sen. Adlai E. Stevenson (D-Ill.) to join the White House Energy Policy and Planning Office, was responsible for meeting the act's requirements: organizing and coordinating the special task force studies, assisting the CEQ in its solicitation of public comments and preparing the President's Decision.

The ANGTA group, apart from Goldman, included Katherine P. "Kitty" Schirmer, former aide to Sen. Philip A. Hart (D-Mich.) and now an aide to Carter's Domestic Policy Council; Gail Harrison, assistant to Vice President Walter Mondale; S. David Freeman, former energy policy chief in

President Lyndon B. Johnson's Office of Science and Technology (OST) and soon-to-be chairman of the Tennessee Valley Authority (TVA); Charles Curtis, a House Commerce Committee attorney who would, also under Carter, become chairman of the FPC's successor agency, the Federal Energy Regulatory Commission (FERC); and others. /46 Special expertise was provided by three committee "coordinators": John Adger, a geologist and Alaskan energy expert with the Federal Energy Administration (FEA); Dr. Jerome E. Hass, chief of of FPC's Economic Studies Division and professor of management at Cornell University; and Richard Smith, an FPB attorney. Adger and Hass would play major roles as the OFI idea, conceived in 1977, moved through implementation from 1979 until 1983.

In early May, lead agencies were identified and provided guidance for preparing the special task force studies specified in the ANGTA for the President's Decision. /47 Their purpose was to provide Schlesinger's ANGTS Steering Committee with comparative assessments in critical substantive areas, such as environmental issues, supply and demand, construction delay and cost overruns, national security and so on. They would be used in justifying the Decision. Several studies, such as those on supply and demand and national security, found no significant difference for choosing among proposals. Others, such as the environmental impacts and construction costs and cost overruns reports, favored Alcan, usually with certain stipulations.

In the meantime, the CEQ received comments from hundreds of "interested persons," including the project sponsors themselves. The Alcan submission, predictably, emphasized the MVPI's findings and the NEB ruling against Arctic Gas, on one hand, and the FPC inclination toward an overland route, on the other. /48 El Paso Alaska, recognizing the ANGTA process as its final appeal, stressed the international complications and energy security dilemma which might arise from Alcan. /49 It also attacked Alcan's credibility in light of its many project promises and alterations. Finally, it focused attention on Alcan's financing plan, which El Paso claimed "cannot be achieved without federal loan guarantees."

The Sierra Club, Wilderness Society (two of the TAPS litigants), National Audubon Society and the Alaska Conservation Society, in transmitting joint comments, noted:

> In a rare instance of near-unanimity, governmental agencies in both the United States and Canada have concluded in recent reports that the Alcan system is preferable to its two competitors. The conservation groups that have participated in this decision from the beginning concur in this judgment. /50

The CEQ Report, issued July 1, recommended the Alcan Alaska Highway plan. The council explained:

> The Fairbanks Alternative [Alcan] corridor would largely follow existing transportation corridors, with no large-scale intrusion into wilderness areas or destruction of wilderness values. We find, in agreement with the Federal Power Commission, that it is the most environmentally acceptable of the three corridors. /51

On the other hand, it found:

> The North Slope/MacKenzie Valley [Arctic Gas] corridor is the most environmentally destructive of the three routes being considered. Intrusion into the wilderness stretching from the Canning River in Alaska to the Mackenzie Delta in Canada would be massively disruptive. We disagree strongly with the Federal Power Commission's conclusion that this corridor is environmentally acceptable. /52
>
> The Alaska LNG [El Paso] alternative presents risks to the environment, to public safety, and to system integrity not present with the overland corridors. Its significantly greater consumption of energy should also be viewed as an environmental cost, and it would have the greatest [adverse] impact on Alaskan fisheries. /53

Now, the ANGTS Steering Committee and its staff would struggle through the summer to blend the task force findings, public comments and CEQ report together with previous and subsequent ANGTS documentation for the President's Decision, due to the Congress on September 1, 1977.

Carter solicited and received a steady diet of cabinet-level advice on the project. Two particularly significant opinions came from Treasury Secretary W. Michael Blumenthal and Ray Marshall, the Labor secretary. Blumenthal, in a memorandum dated July 20, 1977, warned the President against making any offers of federal funding or loan guarantees for the ANGTS. /54 "Maintaining [that] private financing is achievable," he wrote, "will increase pressure on all non-federal parties to maximize their capital commitments to this project." "Maximum commitments," he added, had not yet been made by the transmission companies, producers or the State of Alaska. "In this regard, the Administration... should keep open the possibility of selecting either the El Paso or Alcan projects until the last minute."

Marshall, about the same time, urged Carter to choose El Paso "because of its effect on employment." /55 It would create, he claimed, "103,000 more man years of jobs than ALcan over the life of the project." The government would pay $1.5 billion to provide comparable employment assistance. "At a time when we are considering costly tax proposals to spur investment," he added, "it would be inconsistent to discard a major U.S. investment that can create jobs at no budget cost." In conclusion, "I rank the El Paso proposal first because it would help us meet our goal of...a fully employed economy with a balanced budget in 1981."

However, before either trans-Canadian alternative, Alcan or Arctic Gas, could be selected, the United States and Canada would have to reach a basic, formal understanding on a number of issues, such as routing, financing and ownership, efficiency (pipeline size) and gas tariffs.

Schlesinger had met with Trudeau from February 21-23 in Ottawa on a variety of U.S. energy initiatives, including the ANGTS. /56 They decided, at that time, to expedite certification review (FPC and NEB) and conduct "high-level consultations" on a possible pipeline treaty after May, when the reviews were complete. Although Alcan was, by this time, obviously the favored plan of both nations, El Paso had generally received passing grades, too. This was a point the Americans hoped to make clear to their northern neighbors, particularly if the Canadian government appeared unreasonable in its treaty demands. Alcan could be abandoned in favor of El Paso, the all-American LNG tanker plan, if the price of international cooperation was too high.

Consultations continued through the spring and summer, but official treaty sessions did not begin until August 17 in Ottawa. Basil Robinson, a former deputy minister of Indian and Northern Affairs who would become Canada's first Northern Pipeline Commissioner, served as chief Canadian negotiator while Les Goldman, only 32, and Federal Power Commissioner Don Smith led the American group. The Canadians opened with two primary objectives: route the pipeline further north, away from the Alaska Highway and toward the Mackenzie Delta, and secure a $200 million fund, paid by the United States, to help offset inevitable socio-economic costs in the Yukon. Goldman took both requests under advisement. /57 He and his colleagues, above all else, sought language limiting Canadian provincial government discretion in levying taxes and other charges on the pipeline and its Arctic gas.

The second session, six days later in Washington, D.C., appeared most productive. /58 The United States offered to finance part of the eventual Dempster lateral (pipeline spur from the planned Alcan line, in the southern Yukon, to the Mackenzie Delta) if the Canadians agreed to retain the highway route. This was agreed. The Americans then suggested that Alcan, rather than the United States treasury, pay the $200 million socio-economic impact fee to the Yukon government in some form of advanced property taxes. This idea, too, seemed acceptable. Robinson and Goldman, as the day's negotiations closed, decided it was time to turn the proceedings over to their superiors, Canadian Privy Council President Allan MacEachen and Schlesinger, for consumation.

Robinson and Goldman, as it appeared, were too optimistic about their progress. On August 26 in Washington, at the third negotiating session, deliberations unexpectedly broke down after nearly six hours. /59 First, the Canadians expected the United States to pay a larger percentage of the Dawson diversion and Dempster lateral than Schlesinger had supposed. Second, Canada wanted an $11 million annual property fee in addition to a onetime $200 million grant in the Yukon. Finally, MacEachen preferred a large-diameter (56-inch), low-pressure line to the American 48-inch proposal. Schlesinger was not prepared for such hard negotiation. Both sides, frustrated, returned to the drawing board.

El Paso's chief advocate was Sen. Ted Stevens (R-Alaska), the Senate's assistant minority leader, and on August 24, he had made his case before Carter at the White House. /60 Stevens argued that the treaty cost concessions (then being negotiated) - such as financial liability for all or part of the Dempster lateral, a substantial Yukon tax levy or $200 million socio-economic impact grant, the Canadian native claims settlement - would together offset any overall project cost advantages Alcan had claimed. Alcan's contribution to the nation's growing balance of payments deficit, he projected, would be between $10 and $12 billion. Stevens, in a subsequent memorandum summarizing the meeting, wondered:

> Why should U.S. consumers pay for Canadian manpower and Canadian manufacturers to build a pipeline to carry Alaska's gas to U.S. markets and also continue to pay the costs of U.S. unemployment and a lagging U.S. economy? /61

Carter, at this time, sought the opinion of Charles Schultze, a trusted aide and chairman of his Council of Economic Advisers (CEA). /62 Schultze, echoing Schlesinger, found "a compelling case for construction of one of the projects at the earliest possible time." He advised the President, however, to withhold his route designation (Decision) "until after the negotiations with the Canadians are fully completed," so as not to lose any bargaining advantage and to encourage private financing efforts. He shared Blumenthal's views on government funding and expressed concern over any "rolled-in pricing" scheme, which tended to promote gas importation and, consequently, the outflow of American dollars. The President followed Schultze's advice, delaying his Decision to the Congress. /63

Carter and Trudeau, both distressed with the sudden ill turn in the negotiations, spoke to one another by telephone on August 29. /64 Carter expressed many of the concerns raised by Stevens, particularly the fear of exorbitant levies by the provinces. In the end, they pledged to direct their staffs to be more receptive to compromise. Carter, in fact, later advised Schlesinger not to return from Ottawa, site of the fourth session on September 1, without an agreement. Apparently, their instructions had some effect. At 8:45 p.m. September 2, after two full days of deliberations, MacEachen and Schlesinger announced a tentative agreement. The disputed points were resolved as follows:

- Routing: The original Alcan Alaskan Highway route was maintained and the Dawson diversion, recommended by the NEB, abandoned. However, the United States agreed to pay for the Whitehorse to Dawson segment of the eventual Dempster lateral, as long as construction overruns did not exceed 35 percent. (U.S. financial responsibility for the segment was reduced in proportion to overrun increases.)

- Taxation: The United States, in return for Canadian release of the $200 million socio-economic fund, accepted an Alcan fixed tax payment of $30 million each year for five years, beginning in 1983, to the Yukon government. After 1988, the payment would continue for the life of the project, after adjustment for inflation and Alaskan tax alterations.

° System Efficiency: A higher-capacity pipeline system was agreed upon for Canadian leg below Whitehorse, where the Alaskan and Mackenzie Delta gas would eventually co-mingle. Decision between a high-pressure 48-inch line, preferred by the Americans, and a lower-pressure 56-inch line, favored by the Canadians, would follow additional testing. /65

Schlesinger's recommendation, would be pivotal to the Decision. He had, in a series of memoranda to the President during August, leaned toward Alcan, as long as his cost of service calculations continued to favor it and the Canadians were reasonable and reliable in their treaty assurances. On September 5, in a memorandum to Carter, Schlesinger offered his final assessments:

> [The] clear-cut cost of service advantage of Alcan - together with the Canadian assurances on delays, native claims, taxation levels, tariffs, routes and additional charges - more than offset, in my judgment, the limited advantages of the El Paso system. /66

He offered a final listing of Alcan's other advantages:

° Opportunity for "greater cooperation with the Canadians on other energy issues, such as oil swaps, pipelines and strategic reserves."
° "Clear superiority" of overland pipeline engineering over less certain LNG technologies.
° Consensus on Alcan's environmental preferability to El Paso "by almost all Federal agencies and private parties."
° Alcan's direct marketing capability to the eastern and midwestern United States, where recent gas shortages were most pronounced.
° The chance "to develop a new era of mutually beneficial interdependence with Canada on a broader range of concerns."

He continued:

> If you choose Alcan and send a decision to Congress within the next 7 to 10 days, I believe there is every reason to expect that it will be approved before Congress adjourns this session. Even Senator [Mike] Gravel [D-Alaska] has indicated his potential support for Alcan, further isolating El Paso's strongest supporter, Senator Stevens. For construction projects of this magnitude, it is axiomatic that the sooner they are approved and undertaken, the less they will cost the consumer. /67

Finally, Schlesinger added:

> Prime Minister Trudeau has a separate meeting scheduled with you on Thursday morning [September 8]. The Canadians have expressed the hope that if you have made your decision by that time, this meeting could be an occasion of a joint announcement generally outlining the project and perhaps initialing the Agreement on Principles.

The following day, Schirmer and her boss, Domestic Policy Advisor Stuart Eizenstat, wrote to Carter that "we concur with Jim's recommendation that you select the Alcan route, as modified in negotitations with the Canadian government." /68

That same day, OMB director Bert Lance tepidly endorsed Alcan. It represented a superior plan, he said, only if it was held to certain stipulations, such as private financing and unacceptability of an all-events (gas) tariff, and only if federal monitoring capabilities were enhanced. /69 Carter, after reviewing the Lance memo, instructed Eizenstat and Schlesinger to "assess OMB comments." On September 7, they assured the President that "we concur with these [Lance's financing, cost control and monitoring] conditions, and all are currently planned for inclusion in your decision. In no way," they concluded, "do Bert's comments alter the basic analysis provided to you earlier" which would encourage the Alcan choice. /70

Carter, apparently sometime late that afternoon, finally settled on Alcan. His ANGTS advisors, as the media often reported, had been leaning toward Alcan since early summer. The primacy they placed upon the Canadian negotiations had signaled their inclination. Clearly, Alcan held an edge in technical matters - costs, safety, environmental protection. But Carter, as President, had to be very sensitive to a variety of more political considerations. In this light, the decision was more complicated. For instance, two powerful legislators, Stevens and Sen. Henry Jackson (D-Wash.) were El Paso sympathizers. They could be key to the success of Carter's comprehensive energy plan. Alaska, the host state, made little secret of its preference for the El Paso's LNG tanker scheme. And the plan, as Labor Secretary Marshall had noted, enjoyed dramatic employment advantages over Alcan.

Had it not been for Carter's good relations with Trudeau, his hopes for enhancing the U.S.-Canadian alliance and the "cold homes" winter of 1976-77, with record lows and constant gas shortages particularly in the Midwest, Carter may have decided differently. It may also be significant that Washington and Ottawa, less than two weeks after the announcement, arranged a natural gas "time swap," which allowed the U.S. to import more Canadian gas in the late 1970s, in the midst of its shortages, in exchange for paybacks once the ANGTS was complete in the early 1980s. /71 In any event, it is obvious from presidential correspondence that Carter did not make his final Alcan determination until after receiving the Eizenstat/Schlesinger memo on September 7.

The next day, September 8, 1977, Carter and Trudeau, after a brief conference at the White House, publicly announced the "Agreement on Principles" for a gasline treaty and the joint selection of Alcan. "The Alcan proposal," Carter told reporters, "is preferable because it is more economicial, safer, less environmentally damaging and will deliver the gas more directly to the markets where it's needed in the Midwest." /72 "The long struggle over how to transport Alaskan gas to the lower 48 states," the Wall Street Journal reported, "appears to be nearly over."

On September 22, 1977, Carter sent his Decision and Report to the Congress on the Alaska Natural Gas Transportation System to Capitol Hill. /73 In the transmittal letter, he wrote:

> 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. /74

The Decision was divided into seven sections. The first two parts simply designated Alcan as the ANGTS licensee, generally described the system and delineated its approved route. Section three identified the various facilities included in the construction plans while section four listed two laws (Section three of the Natural Gas Act and Section 103 of the Energy Policy and Conservation Act) which required waiver. Sections five, six and seven of the Decision discussed terms, conditions and enforcement, Alaska gas pricing and the "Agreement on Principles."

Section five, of all the Decision's elements, was perhaps most significant. Its first part, the stipulation of ANGTS terms and conditions, was the Carter administration's initial attempt to define, usually generally but occasionally very specifically, its political objectives through oversight specification. Many of the problems associated with the trans-Alaska Pipeline System (TAPS), finished June 20, 1977, were traced to slow, complicated, confused and often inexpert governmental review and regulation. Such deficiencies, which would shortly be documented in a series of private and governmental assessments of TAPS in 1977 and 1978, had not escaped Schlesinger's ANGTS Steering Committee. /75 They included:

- Failure to coordinate various federal and state oversight responsibilities, both between and within levels. /76
- Insufficient site-specific geo-technical information and pre-construction design, inadequate to command preferred "fixed-price" execution contracts or provide cost control incentives. /77
- Poor quality control/quality assurance planing, including absence of "stop work" prerogative, inability to secure immediate corrective action, unwillingness of government personnel to use their authority and lack of formal interface between sponsor groups and government personnel. /78

As the Decision itself noted: "If these general terms and conditions [specified in the first part of Section 5] are effectively enforced, most of the management abuses associated with the Alyeska project should not recur." /79

The Decision's terms and conditions, presented in detail in FIGURE 1-9, convey the extent of federal authority granted to the new Federal Inspector, indicate political goals and controls which the administration wished to maintain, and underscore the Steering Committee's effort to avoid the TAPS stumbling blocks. These "Terms and Conditions" comprised a major part of the strategic blueprint from which the Office of the Federal Inspector, by a limited reorganization plan and after its official founding in 1979, would more specifically define its role.

A critical issue, one which Lance had identifed, was the exact configuration of federal oversight, precisely, the manifestation and organization of the new Federal Inspector and his office. This was addressed in the second part of Section 5, entitled "Enforcement." /81 ANGTA, of course, had provided some very preliminary guidance. It specified, in the five points noted earlier, a few basic responsibilities but had balked at so simple a matter as determining if the office should be governed by an individual or a board.

The Decision's Section 5 did, however, clarify the OFI configuration. First, it defined the Federal Inspector, a single "Presidential appointee confirmed by the Senate and...independent of other existing Federal agencies." /82 In addition to the statutory duties specified in the ANGTA, he would hold "supervisory authority at the field level over enforcement" of ANGTS terms and conditions, and would "coordinate Federal involvement with the pipeline operator during the design and construction phases of the project." In other words, he would temporarily assume most statutory enforcement responsibilities of any federal agency with authority over the ANGTS. The Federal Inspector was to be the "principal point of contact" for all ANGTS agents - the Alcan sponsors, the Prudhoe Bay producers, contractors, all State and other Federal offices, and the various Canadian actors.

Second, the Decision unveiled an ANGTS Executive Policy Board (EPB), a six-member panel comprised of the secretaries of Interior, Energy, Transportation, the EPA administrator, the Chief of the Army Corps of Engineers, or their delegates, and, as non-voting chair, the Federal Inspector himself. "Presidential supervision over the Federal Inspector," the Decision stipulates, "will be delegated" to the EPB; it would be, by this design, the ultimate OFI power.

> 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 [AAO]. /83

Figure 1-9: Decision Terms and Conditions

° Construction Costs and Schedule Management

1 Before certificate issuance, Alcan "shall provide a detailed overall management plan, to be approved by the Federal Inspector, for the preconstruction and the construction phases of the" ANGTS.

2 Alcan "may not use cost-plus type contracts with execution contractors, except wehre the Federal Inspector determines that special conditions warrant this type..."

3 Alcan must "specify for approval of the Federal Inspector the insurance, bonding, and any other prequalification requirements for all consultants" and contractors.

4 Before construction may begin, Alcan "shall provide a detailed analysis and description of its proposed cost and schedule control techniques."

5 Also before construction, Alcan must submit, for the Federal Inspector's approval, "a final design, design-cost estimate, and construction schedule." The 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 type of construction or geologic situation, such as river crossings or discontinuous permafrost.

6 Alcan must receive Federal Inspector approval of its supply and logistics plans.

7 Before construction commences, Alcan "shall supply detailed information to the Federal Inspector on its labor relations procedures..."

8 Execution contracts must "incorporate techniques for resolving disputes...without recourse to litigation."

9 Alcan must provide "the Federal Inspector [with] a detailed description of quality assurance and control procedures that will be implemented prior to the start of construction."

10 Alcan "may not initiate activity on any aspect of the pipeline until authorization to preceed with construction...has been issued and procedures for enforcement of" terms have been established.

11 Alcan must develop an affirmative action plan "to ensure that no person shall on the grounds of race, creed, color, national origin or sex be excluded from" participating in any project related activity.

° Safety and Design

1 Alcan "shall construct, operate, maintain and terminate the pipeline in accordance with Federal gas pipeline safety regulations."

2 No construction of any pipeline segment may commence "until the Federal Inspector has approved the design of that [particular] segment."

3 Alcan must "establish as procedure for briefing the Federal Inspector" or his staff concerning design, construction and testing.

4 The Federal Inspector will have access to all project facilities.
5 Alcan must prepare a "procedure for conducting its own inspections" during construction. This plan must be approved by the Federal Inspector.
6 A seismic monitoring system shall be installed and approved by the Federal Inspector.

° Environment
1 The pipeline must be built and operated with "maximum concern for the protection of environmental values." Stipulations will be prepared relating both general standards and "site-specific" terms and conditions.
2 Alcan must integrate "environmental protection with the proposed schedule of construction and operations," its supervisory and technical staffing, and its QA/QC system.
3 Before construction, Alcan must prepare, and submit for Federal Inspector review, "an educational program" to sensitize all project personnel to environmental considerations related to Arctic regions and pipeline projects.
4 Alcan "shall establish an effective pipeline-monitoring system of inspection and instrumentation to insure performance in keeping with environmental concerns."

° Finance
1 Alcan must "provide for private financing of the project" and make "final arrangement for all debt and equity financing prior" to construction start.
2 The Federal Energy Regulatory Commission (FERC) shall, on the basis of Alcan's final cost and project estimates, establish "a variable rate of return on equity" mechanism which will provide disincentives for project cost overruns. It must be approved jointly by the FERC and the Federal Inspector.
3 No American consumer will be "compelled to pay a fee, surcharge or other payment" in support of the ANGTS "prior to [its] completion and commissioning."
4 Alcan shall be "open to ownership participation by all persons" except the Prudhoe Bay producers.

° Antitrust
1 Prudhoe Bay producers are prohibited from being owning any Alcan equity, voting on Alcan decisions or occupying any organizational leadership positions.
2 "All agreements for the sale of Alaska gas...shall be fully disclosed to the Federal Power Commission [FERC]."

° Certification of Facilities
1 Before certification of either the east (Northern Border Pipeline) or west (Pacific Gas Transmission Company) legs of the ANGTS, the Secretary of Energy must assess the nation's gas supply situation and recommend to the FPC (FERC) if a different rated capacity is desirable. /80

The AAO, liaison officials attached to the OFI by the EPB agencies constituted the third major element of the OFI configuration. "These officers," the Decision explained, "will represent and exercise the internally delegated authorities of their respective agencies in matters pertaining to the project." /84 The AAOs were, in effect, "outsiders" on the inside of OFI, responsible for attending their sponsor agency's monitoring and enforcement functions within the OFI organization and under the Federal Inspector's supervision. It is not difficult to image serious dilemmas arising from the AAO idea. For example, an AAO might have an enforcement action overruled by the Federal Inspector, who decides that another consideration (perhaps project expedition, a task central to his mission) is more important in this particular instance. In this as in most instances, a dissatisfied AAO could appeal the Federal Inspector's ruling to the EPB, which was authorized by the Decision to make a final determination.

To implement the OFI configuration and enable its enforcement of the new ANGTS terms and conditions, a limited government reorganization plan would be necessary. The Decision recommended such a plan, which required congressional approval. It would, essentially, "transfer... field-level supervisory authority over enforcement of terms and conditions" temporarily to the OFI. /85 The President, however, could immediately issue an executive order establishing the EPB, in accordance with ANGTA, and delegate any authority necessary for it to fulfill its functions. By these two actions, a limited reorganization plan and an executive order, the OFI could be fully and finally constituted and empowered.

A large part of the Decision's accompanying report dealt with an ANGTS financial analysis, as required by ANGTA. The Decision was not, however, entirely persuasive in its conclusion that "the project can be privately financed" under specified conditions. /86 These conditions, which would "equitably and carefully balance the project's benefits and risks," are summarized below:

- The equity investment in the project would be placed at risk under all circumstances, but Alcan would be allowed a fair rate of return on equity to justify investment.
- Producers and the State of Alaska should participate in financing either directly or in the form of debt guarantees.
- Cost overruns would be shared by equity holders and consumers through the application of a variable rate of return mechanism, which provides construction cost control incentives.
- Debt service could be charged to consumers only after the commencement of gas delivery.

Most conditions appear fashioned to protect consumer interests rather than entice the required $10 to $15 billion eventually $40 billion - in private investment capital. The "condition" of Alaska underwriting ANGTS debt was, by every existing indicator, an exercise in wishful thinking.

Perhaps the determining aspect of project financibility was the market potential for Alaskan gas, which at $3.50 per thousand cubic feet (Mcf.) - double Carter's proposed domestic price ceiling - was hardly bright. Even allowing sponsors and gas distributors to "roll in" the high Alaska gas charges with low-cost domestic supplies, the appeal for attracting over $10 billion from private investors, in the absence of government guarantees, was not particularly strong.

In fact, the Wall Street Journal, in an editorial published a day before the Decision was delivered, predicted that "the much-touted pipeline [ANGTS] to bring gas from Alaska will never be built." /87 Congress, it stated, "can build the pipeline if it is willing to soak the U.S. taxpayer for its cost of $10 billion and up" or if, "in the far future," it appears that gas cannot be purchased for less than $3.50 Mcf.

> But until we have exhausted the possibility that gas can be had right here in the Lower 48 at a cost below the $3.50 Alaskan price and above the $1.75 Carter control price, there will be no way the pipeline developers will be able to borrow $10 billion to build the project.

"You simply won't get the expensive resources," the Journal concluded, "so long as there is a [chance] that cheaper ones may be around." This simple and obvious observation, for pipeline advocates, would prove tragically prophetic.

The Decision was officially delivered on September 22, 1977. The U.S. Congress, in accord with ANGTA, had 60 days to approve or reject the President's choice of Alcan. Congressional endorsement was expected, but was by no means automatic. Stevens and his Alaskan allies refused to abandon El Paso, and Howard Boyd, the company's chairman, had, at the time of the joint Carter-Trudeau announcement September 8, vowed to fight the Alcan selection on the Hill. However, on the very same day the Decision sent to the Congress, Boyd told a joint meeting of the House Interior and Interstate Commerce committees that El Paso was officially withdrawing its application. /88 Although "unshakingly convinced of the wisdom" of his plan, Boyd explained that "political reality tells me that further proceedings before this Congress, followed by such judicial review that may be available, doesn't enjoy sufficient prospect of success to justify the harm to the public interest inherent in such a course." El Paso Alaska, after five years, would now dissolve; its $21 million Arctic pipeline adventure had ended.

The President's Decision would not leave the Hill without serious discussion. On the day the document was delivered, Jackson, swinging behind the Alcan plan, introduced Senate Joint Resolution 82, a brief statement of Decision approval taken directly from the ANGTA. /89 Hearings on the issue were held by the full Senate Committee on Energy and Natural Resources, chaired by Jackson, on September 26 and 27, and again on October 11, 12 and 25. Most concerns seemed to involve project financing, cost of service, Canadian provincial guarantees and, to a lesser extent, environmental impacts.

Financing appeared the preeminent issue. During the FPC (Litt) Hearings in 1975-76, each of the three applicants believed that some form of Federal financing or funding guarantees were necessary to ANGTS success. Arctic Gas and Alcan had initially supported an "all-events" tariff, which would have ensured their investment regardless of project disposition. El Paso sought subsidies for LNG tanker construction. Despite these early indicators, the Decision specified private financing and explicitly denied an "all-events" tariff for the ANGTS. Schlesinger, the first secretary of Carter's new Department of Energy, argued, in his correspondence with the President, that Alcan could build the pipeline without government money. His argument was based upon eleventh-hour assurances from Alcan's McMillian, offered in the high pitch of the certification battle.

The Decision also encouraged financial participation by the North Slope producers and the State of Alaska, which had "thus far turned thumbs down on the project." /90 In fact, all three producers themselves "have expressed reservations about the viability of" Alcan without U.S. assistance. ARCO suggested giving Alcan six months to find money then, re-exploring financing alternatives. Congress, however, was not enthusiastic about changing the rules after certification. It announced:

> The State of Alaska, the [North Slope] producers, and most of all the project sponsors should bear in mind that the door to the Federal Treasury has not been left open to them. We have taken the administration's and the sponsor's assurances at face value and are placing our reliance upon them.
>
> The committee cautions the administration and the sponsors against taking a back door approach to Federal financing. /91

Alcan cost of service in the Decision was estimated at $1.04 per Mcf. (1975 dollars), compared to $1.21/Mcf. for El Paso's project. This cost was based upon a projected ANGTS throughput rate of 2.4 billion cubic feet (Bcf) per day over the 20 year life of the project. According to an independent study, the Decision's throughput estimate was unrealistically high. Dr. Todd Doscher, a petroleum geologist at the University of Southern California (USC), insisted that the highest possible transmission rate from Prudhoe Bay would be only two Bcf. per day. /92 He recommended that Congress delay determination on the Decision for three years until after the field's behavior was more completely understood. Immediate removal of gas, he argued, could reduce ultimate recovery of crude oil from the reservoir. The Senate Energy and Natural Resources committee, while approving the Alcan selection, nevertheless acknowledged Doscher's reservations and recommended additional research on secondary and tertiary recovery from North Slope fields.

Stevens, addressing the committee on the first two days of the hearings, suggested that the Canadian provinces might delay construction and increase costs of the ANGTS. /93 The British Columbia government, he charged, blocked the Columbia River Treaty for four years and exacted

FIGURE 1-10: Chronology of Major ANGTS Events, 2

1976 - 1979

October 1, 1976	Congress passes the Alaska Natural Gas Transportation Act (ANGTA), which establishes procedures for Alaska gas pipeline selection and sets a September 1977 deadline for presidential decision.
October 22, 1976	President Gerald Ford signs P.L. 94-586 (ANGTA) into law.
November 12, 1976	The FPC hearings, under Judge Litt, conclude after 253 days of hearings and nearly 44,500 pages of testimony.
November 18, 1976	Testimony concludes in Justice Berger's Mackenzie Valley Pipeline Inquiry in Canada. Report preparation, begun several months before, continues.
December 7, 1976	FPC staff, in its final position brief, outlines a hybrid proposal drawing together the most attractive elements of each of the three programs, but most closely resembling the Alaska Highway plan.
December 14, 1976	The FPC issues Order No. 558 prescribing pipeline selection procedures in accord with the Alaska Natural Gas Transportation Act (ANGTA) of 1976.
February 1, 1977	Initial Decision issued by Judge Litt recommends approval of the Arctic Gas plan but allows that all three plans appear feasible and reasonable.
February 16, 1977	The Alcan groups submits a revised proposal which includes a large-diameter (48-inch), high-pressure pipeline and provision for a lateral into the Mackenzie Delta.
February 23, 1977	President Jimmy Carter and Trudeau discuss prospects for completing pipeline selection within the ANGTA timetable.
March 3, 1977	Canadian Energy Minister Alastair Gillespie meets with top Carter Administration officials in Washington to establish guidelines for a inter-continental pipeline treaty.
March 8, 1977	The Alcan group files amended application to the FPC for the 48-inch diameter revision.

March 9, 1977	The Canadian government announces two studies (one environmental, the other socio-economic) will be conducted to study the impact of the new Foothills Alcan Highway proposal on the Yukon region.
March 21, 1977	The Environmental Assessment Review Panel, the environmental component of the Yukon region studies, begins its hearings under the chairmanship of Dr. Harry Hill.
March 22, 1977	Supplemental information is filed with the FPC by by all three competing applicants: Arctic Gas, El Paso Alaska and the Alcan group.
April 4-8, 1977	Oral argument is heald before the FPC commissioners and staff on the three Alaska gas pipeline proposals.
April 19, 1977	Kenneth Lysyk is appointed to lead the Yukon region study on projected socio-economic affects of Northern pipelining.
April 28, 1977	The Canadian Parliament approves and empowers the Northern Pipeline Agency (NPA) and Basil Robinson, former Under-Secretary of State for External Affairs, is named as Pipeline Commissioner.
May 2, 1977	The FPC, in its recommendation to the President, advocates an overland pipeline route, but commissioners are split two-two between the Arctic Gas and Alaska Highway plans.
May 9, 1977	Justice Berger's preliminary report recommends postponement of a Mackenzie Valley pipeline for at least 10 years due to environmental consideration, sociological disruption and native claims settlement. By default, his decision favors the Alcan group.
May, 1977	TAPS construction is completed.
June 20, 1977	First Prudhoe Bay oil enters TAPS.
June 27, 1977	The President's Council on Environmental Quality (CEQ) endorses the Alaska Highway plan as "environmentally preferable."
July 1, 1977	The President's Interagency Task Forces, created in accordance with ANGTA, report their findings. Two groups (Environmental Issues, National Economic Benefits) favor the Alaska Highway plan; one (Socio-economic Impacts) recommends El Paso; one (Construction Delay and Cost Overruns) supports either. The four

	Prime Minister Trudeau meets with his cabinet to review Canadian negotiating strategy.
August 31, 1977	President Carter's top policy advisors recommend the Alaska Highway alternative.
September 1, 1977	Treaty negotiations continue. MacEachen and Schlesinger deliberate all day. Canada, abandoning its diversion north to Dawson, insists that the U.S. pay for the Dempster Lateral. U.S. negotiators agree, but only if Yukon property taxes are restrained.
September 2, 1977	Treaty negotiations conclude. The Canadians agree to limit Yukon taxation and the treaty's precise language is specified.
September 8, 1977	Prime Minister Trudeau and his cabinet, after Parliamentary debate, approve the Alaska Highway plan.
September 22, 1977	President Carter issues his Decision and Report to Congress which recommends the Alaska Highway plan, as amended with the 48-inch diameter pipe.
October 12, 1977	The Federal Energy Regulatory Commission (FERC, formerly the FPC) endorsed the President's Decision in favor of the Alcan group.
November 2, 1977	Congress overwhelmingly approves the Alaska Highway pipeline.
November 8, 1977	President Carter signs the Alaska Highway plan into law (PL 95-158).
December 16, 1977	The FERC, which assumed the FPC's certification responsibilities, issues a conditional certificate to the Alcan group enabling it to begin pipeline design.
December 31, 1977	The Alcan group reorganizes as the Northwest Alaskan Pipeline Company and officially designates its approved plan as the Alaska Natural Gas Transportation System (ANGTS).
May 8, 1978	The FERC proposed an incentive rate of return (IROR) structure to govern construction costs, as required by the President's Decision.
November 9, 1978	President Carter signs into law the Natural Gas Policy Act (PL 95-621), which set the wellhead price of Alaska natural gas at $1.45 per thousand cubic feet plus monthly inflation allowances.

	remaining task forces (Supply, Demand and Energy Policy; Safety and Design; International Relations and National Security) do not select alternatives.
July 4, 1977	The Canadian NEB rejects the Arctic Gas plan and, with important stipulations, recommends the Alaska Highway plan. The board envisions a future Dempster Lateral pipeline to connect the Mackenzie Delta with the Alaska Highway project.
July 8, 1977	An explosion destroys the main building at TAPS pump station #8, delaying system start.
July 20, 1977	Interior Secretary Cecil Andrus recommends the Alaska Highway plan.
July 29, 1977	The Arctic Gas (CAGPL) consortium, after a $150 million investment, withdraws its proposal. Eight U.S. Arctic Gas members endorse the Alaska Highway plan.
August 1, 1977	The Lysyk Inquiry reports that the Alaska Highway pipeline can be constructed through the southern Yukon without unacceptable social and economic impacts.
August 17, 1977	Negotiations on U.S.-Canadian gas pipeline treaty begin in Ottawa and initial bargaining positions are established. Canada, represented by Robinson, proposes that the Alaska Highway consortium endow a $200 million socio-economic impact fund for Yukon and route the pipeline further north to facilitate a Mackenzie Valley connection.
August 23, 1977	Treaty negotiations continue. The U.S. team, led by Les Goldman, an aid to Energy Secretary James Schlesinger, recommends preliminary tax payments in the Yukon in lieu of the impact fund and agrees to help finance the Dempster Lateral, which will connect the Alaska Highway line with the delta.
August 24, 1977	The White House reports that President Carter will delay his Alaska gas pipeline decision until late September, after Congress reconvenes.
August 26, 1977	Treaty negotiations continue. Allan MacEachen, Privy Council president and minister with jurisdiction over the pipeline, and Schlesinger fail to resolve routing and financing problems.
August 29, 1977	President Carter and Prime Minister Trudeau, after conferring over the telephone, instruct their respective emissaries to be more concilitory.

December 1, 1978	The FERC adopts an IROR mechanism, but will continue its deliberations on its critical cost factors.
January 26, 1979	Northern Border, the U.S. transmission consortium allied with the Northwest Alaskan group to construct the ANGTS' East Leg, files for FERC approval to build a $1.4 billion "pre-build" section to transport Canadian gas until Alaska gas is available.
February 2, 1979	The FERC decides that the Prudhoe Bay producers must pay for construction and operation of a North Slope conditioning plant to prepare their gas for transport.
June 8, 1979	The FERC adopts IROR values.
	John T. Rhett is nominated as Federal Inspector.

Source: OFI "Chronology of Major Events" and various project documents.

$250 million in "impact" funds from the United States before consenting to the project. He added that David Barrett, a former British Columbia primier, advised the provincial parliament to charge Alcan more than $800 million for the privilege of operating in British Columbia. These observations were hardly comforting to the members.

Annex Five of the "Agreement on Principles," which listed statements of ANGTS support and treaty cooperation from affected Canadian provinces, was insufficent for restraining provincial demands, according to Stevens. Under Canadian law, a treaty is not supreme, as it is in the United States. In fact, "the provinces [were] not bound by the treaty [stipulation] which prohibits discriminary taxation from being imposed upon any hydrocarbon pipeline." The Senate Energy and Natural Resources committee found this circumstance unexceptable:

> ...we believe it is absolutely imperative that the Government of Canada provide evidence in the near future that the agreements between the Federal Government and the Provinces have, in fact, been successfully negotiated and are binding on the Provinces. /94

Finally, the Energy and Natural Resources committee determined that "much additional environmental work...needs to be done." /95 This work included a survey of archaeological and historic sites along the Alcan route, construction scheduling alterations to reduce damage to Arctic permafrost, and greater generation of and attention to site-specific environmental data.

The committee concluded:

> Reservations about the Alcan Project have been expressed and are contained in the committee's hearing record. However, considering the record taken as a whole, we believe the advantages involved in giving Alcan a chance to succeed far outweigh the risks involved in reopening the complex process which led to the President's Decision.
>
> ...There is an urgent national interest in making [the North Slope gas] reserves available for productive use. The Alcan project, if it can be implemented, has enormous potential for meeting national energy needs in the 1980s and beyond. We therefore recommend that the Senate approve Senate Joint Resolution 82. /96

The resolution, after a 12-0 committee vote on November 1, 1977, was endorsed the following day by a voice vote in the House and by a 87-2 tally in the Senate. The Alcan selection, its route and the Decision's general stipulations were now law. McMillian, Northwest Alaska's chairman, told reporters that the "expeditious handling of the Alcan project by Congress...will help insure the timely construction of the gas pipeline." /97

Executive Reorganization

The ANGTS Steering Committee, under Schlesinger at the White House during the Decision's preparation, dissolved and staff reconstituted as the Alaska Gas Project Office (AGPO) in the new Department of Engergy, where Schlesinger served as the first secretary and Goldman, a top policy advisor. Decision formulation and approval, it appeared, was only the tip of the ANGTS project iceberg. Now, the OFI idea required specification; it had to be translated from a theoretical innovation into a substantive federal program, a bureaucratic reality. This would be the greatest challenge. A new ANGTS team, comprised of top departmental personnel and aided by AGPO staff, set out to accomplish the post-Decision agenda:

- Establish and staff the Executive Policy Board (EPB).
- Draft an Executive Reorganization Plan, conferring temporary and specific authority on the new Office of the Federal Inspector.
- Nominate and select a Federal Inspector.
- Negotiate system efficiency (pipeline size) with the Canadians and develop an incentive rate of return (IROR) mechanism.

Much of this work, of course, had already been accomplished as the steering committee and the various task forces developed the Decision. Proposals for pre-OFI oversight, or what AGPO memoranda referenced as "organization of federal interaction with [the] successful applicant," had begun to surface several months before Carter's choice. /98 On August 26, 1977, the first major plan for ANGTS oversight, which in line with the Decision, called for a strong Executive Policy Board, was sent to Goldman for concurrance by representative of two central ANGTS actors: Guy R. Martin, a DOI assistant secretary, and Dr. John J. Fearnsides, administrator of DOT's research program office. /99

Martin and Fearnsides envisioned a ruling EPB composed of the secretaries of DOI, DOE, and DOT or their designated agents (like themselves, senior staff with ANGTS jurisdiction) and the new Federal Inspector, as nonvoting chairman. This panel would "provide policy guidance through the Federal Inspector to the Agency Authorized Officers representing the statutory authority of each appropriate Federal agency." /100 In other words, the Federal Inspector would act as an instrument of EPB policy determinations, except in the day-to-day management of the new agency. He would direct the AAO's in accordance with the EPB and/or their sponsor agencies, not the Federal Inspector, under whose organizational realm they fell. Furthermore, Martin and Fearnsides also proposed a new Federal Interagent Coordinating Committee (FICC), a cadre of mid-level professionals mobilized to provide technical guidance and counsel to the EPB. This group operating outside the formal OFI organization, would provide the EPB with a highly sophistocated, independent technical capability, one beyond the Federal Inspector's control. The Martin-Fearnsides plan, which was consistent with the Decision, illustrated the great reluctance of DOI and DOT, two of the "big three" ANGTS departments, to delegate their oversight authority to an independent agent. ANGTS officials at Energy did not demonstrate the same jealousy

of prerogative or "territorial" concern, perhaps because of Schlesinger's dedication to an independent, authoritative OFI or because DOE itself represented a new organizational interest. Additionally, DOE had no "stake" in rectifying a residual image left by TAPS. Fragmented authority and slow, decentralized decision-making - two prominent TAPS oversight problems - had often been attributed to DOI's "management by committee" approach. If field enforcement was to be expert, consistent and expeditious, authority authority would have to be centralized and accountability clarified. The Decision's institution of colleagial rule, by the EPB and through AAOs, was not a practical field solution. Key officials Schlesinger, White House staff, Jackson and other leading congressmen - understood this as the implications of the Decision's oversight scheme, made transparent with the Martin-Fearnsides memo, became clearer.

In any event, Schlesinger and Goldman were not happy with the Martin-Fearnsides plan. They agreed with Thomas Geoghegan, an assistant secretary in the Federal Energy Administration (FEA), "that it would be simpler to [legally] transfer all enforcement authority to the Federal Inspector," thereby bringing the AAOs under OFI command and releasing the EPB's grip on the OFI. /101 But, as Geoghegan wrote:

> On the other hand, a procedure [stated in the Decision] has now been agreed upon. Institutional rivalries might be stirred up all over again by a new proposal to transfer full enforcement authority to the Federal Inspector. /102

DOE temporarily acceded to the plan, but did manage to make a couple noteworthy alterations. Since Schlesinger's staff would draft the plan, they would be able to strengthen the Federal Inspector's authority. First, the EPB was expanded to include representatives from the EPA, the U.S. Army Corps of Engineers and, in an advisory role, the FERC, a sub-Energy Agency. Second, the FICC idea was shelved until after the regular OFI staff and its technical contractors were assembled, operative and tasked in the EPB's service. It would, in the end, never materialize.

On October 19, 1977, Martin advised the leading ANGTS officers of the four other EPB agencies that "it would be advantageous for us to meet together very soon to discuss several key matters." /103 These officers included Goldman (Energy); Fearnsides (DOT); Barbara Blum, EPA deputy administrator and Brigader General Lee Garrett, a senior officer in the Army Corps of Engineers. Don Smith, the FERC commissioner, was also invited to attend. They convened first on October 27, 1977, to organize and, thus, the ANGTS Executive Policy Board was constituted. The AGPO, responsible for composing a limited executive reorganization plan, necessary to institute the OFI and structure its relations with ANGTS agencies, was directed to proceed with haste.

Schlesinger, counseled by Goldman and AGPO staff, became increasingly convinced that a strong Federal Inspector was necessary and, by enlarging the EPB, won allies for his position. Important support came

from Smith, who, as a former Federal Power Commissioner, had followed both the TAPS and ANGTS issues very closely, and Blum. In fact, Blum, on March 13, 1978, wrote Schlesinger:

> You stated [at a recent cabinet meeting] that it is critical that appropriate authority and responsibility be granted to the Federal Inspector if he is to properly carry out his role of regulatory oversight of design and construction for the [Alaska Gas] pipeline. I agree wholeheartly with you on this issue and have identified a number of issues related to this which I think are critical to the success of the Federal Inspector. They are:
>
> - The Federal Inspector should be executive level II or III and not IV if he is to be able to adequately deal with the policy board and the agencies.
> - Overlapping agency requirements should be under the Inspector's direct control. This should also include special requirements, be they contract compliance, "Buy American," etc.
> - The Federal Inspector needs some control over the authorizing agency representatives. Obviously they will have strong ties to their agencies (and this should be), but this job is so complex that a team effort is essential....
> - Remployment rights should be established for personnel. /104

AGPO staff was thinking along the same lines.

Suddenly, on March 23, Defense Secretary Harold Brown, in a memorandum to the President, advised Carter that the Army Corps of Engineers "has much to offer" as the lead staff agency to the new Federal Inspector. /105 Brown was suggesting that the independent OFI concept, stipulated in the Decision, be replaced by a special Corps suborganization, specifically customed to the task. Brown cited the Corps' varied permit processing and enforcement, design review, contract administration and quality assurance experience. The Corps, Brown argued, could provide a Federal Inspector with a small, highly skilled organization with a proven record in major construction oversight and Title II contracting. Schlesinger, however, quickly stepped to persuade Carter to retain the independent OFI concept.

On May 10, the AGPO completed its initial Memorandum on a Limited Executive Reorganization Plan for the Office of the Federal Inspector... /106 It would serve as the base document for the final plan The Memorandum accounted the history of the Federal Inspector concept, listed criteria against which possible reorganization proposals should be assessed, provided a series of organizational options and, finally, recommended a specific reorganizational format. We have, throughout, traced the evolution of the Federal Inspector idea. The criteria for a reorganization structure, also discussed above, may be summarized:

- Facilitate timely completion of construction
- Maintain project integrity, in terms of safety and environmental protection
- Minimize cost overruns
- Reduce federal monitoring costs
- Ensure proper enforcement
- Improve access to the government process for affected and interested parties
- Increase federal accountability /107

Organizational options were presented in the Memorandum as responses to four central questions:

1 Is a reorganization plan required?
2 During which phase(s) should the reorganization apply?
3 What should be the relationship (a) between the Federal Inspector and the EPB and (b) between the Federal Inspector and the AAOs?
4 How should the Federal Inspector and the AAOs be granted budget authority?

In the first instance, an executive reorganization plan was clearly necessary. "There would be," the Memorandum states, "a transfer of Congressionally mandated responsibility from the various Federal agencies to the Federal Inspector which is beyond the purview of the President's power to delegate Presidential functions through executive orders.... The critical factor requiring transfer and not mere delegation is that the Federal Inspector would have supervisory authority over the enforcement actions of the agencies," as recognized in the Decision. /108

The period and extent of reorganization was less certain. Three major alternatives were identified by the Memorandum. First, the OFI could, of course, assume complete responsibility for ANGTS oversight. By this scenario, it would attend both the permitting and enforcement duties of all ANGTS agencies at the outset. This would, theoretically, promote coherence, coordination and accountability. However, it might also undermine performance. As the Memorandum observes: "There could be a question whether the Federal Inspector could amass sufficient expertise and experience to adequately [assess and] process the myriad applications for government authorizations." /109 Furthermore, costs associated with organizational startup and "learning" might exceed savings gained by expediting the permitting process through reorganization.

A second alternative emerged from a very narrow reading of the Decision. Under this option, "the permitting authority remains with the other [ANGTS] agencies, and only the supervisory authority over enforcement of stipulations and terms and conditions at the field level would be transferred to the Federal Inspector." /110 While this configuration had many advantages, it was feared that the absence of a central OFI office for either permitting or enforcement would cause unwarranted processing and approval delays, like those associated with TAPS. Also,

some analysts believed that this alternative would not provide the Federal Inspector with sufficient institutional strength to effectively lead field enforcement activities.

The third alternative, called "Permit Scheduling and Enforcement Reorganization," was a hybrid of the two previous options and the preferred course of action:

> Supervisory authority at the field level over enforcement is transferred to the Federal Inspector, as contemplated in the President's Decision and Report. Authority to develop and issue permits and other authorizations would be retained by the respective agencies. In this regard, however, it is contemplated that the agencies would invest in their respective Authorized Officer adequate authority to ensure timely issuance of these permits and the Federal Inspector would act as a "one window" point of contact in order to coordinate the issuance of these permits. /111

In other words, the ANGTS agencies would conduct their own permitting, through the OFI organization and under a critical path timetable established and maintained by the Federal Inspector. The "one window" concept offered all project parties a single address for submitting data, permit applications and for receiving federal authorizations from the federal government. The Federal Inspector, additionally, would assume control of all subsequent enforcement efforts.

The third question which arising with organizational options involved the structure of relations between the new Federal Inspector, on one hand, and the EPB and AAOs, on the other. The Federal Inspector's authority vis-a-vis the EPB members had been, since the ANGTA, a highly sensitive and contentious issue. The Martin/Fearnsides plan, described earlier, consolidated influence under the EPB, which acted as a working board of directors. The Federal Inspector, by this design, functioned as a chief executive officer, an agent of the board managing under its policy command. In the Memorandum, the Federal Inspector was granted, as his office was delegated, greater independence and authority. The Memorandum states:

> All enforcement authority of the various Federal agencies would be transferred to the Federal Inspector, but the Executive Policy Board would retain the authority to:
>
> ° Override the Federal Inspector decisions by a majority vote where there is significant Federal Inspector-Agency Authorized Officer disagreement which has been raised by an EPB member,
> ° Determine major policy issues by a majority vote, and
> ° Oversee the general performance of the Federal Inspector. /112

The Memorandum still suggests an ascendant EPB, but it is clearly less dominant in OFI decision-making and management than it was under the Decision or the Martin/Fearnsides plan. Correspondingly, the Federal Inspector seems more authoritative. How is this explained?

First, the DOI/DOT resistence had weakened, as Martin, originally a leading advocate of a strong EPB, was slowly convinced by Schlesinger and Goldman that the ANGTS mission required a single, influential Federal Inspector. Second, the leading candidate for Federal Inspector, John T. (Jack) Rhett, Jr., a retired Army engineer and EPA's deputy assistant administrator for water programs, impressed as a highly competent project manager with high marks in negotiation and little propensity for "empire building." ANGTS agencies were more inclined to "vest" their authority in a Federal Inspector sensitive to their concerns, anxious to work with them and willing, at the project's conclusion, to return "borrowed" prerogatives. Correspondence indicates that Rhett was seen to fit the bill. Finally, the OMB President's Reorganization Project (PRP), which involved Vice President Walter Mondale and former members of the White House Steering Committee, advocated a strong Federal Inspector. The PRP's high visibility and presidential access must have softened demands at DOI and DOT for a more activist EPB.

As to the Federal Inspector's relation to the AAOs, the Memorandum identified both a "minimum" and "maximum" delegation of authority. With the former, the Federal Inspector would grant little more than monitoring responsibilities to the AAOs and their staffs. The Memorandum stipulates:

> The Federal Inspector would set up his own, fully coordinated enforcement staff either using agency personnel or employees of his own choosing.... The Agency Authorized Officers would survey the Federal Inspector's enforcement actions to assure that the Federal Inspector was adequately representing the varied interests of their agencies.... /113

AAOs, if disenchanted with OFI enforcement activity, would appeal first to the Federal Inspector, then, if not satisfied, to the EPB. The option was considered "unacceptable" because AAOs would be segmented from direct involvement in OFI decision-making.

The preferred course was see to "maximum" delegation. Under this scheme, AAOs became the Federal Inspector's senior staff, with direct line and staff responsibility to him, instead of remaining outside the formal organization as independent monitors. The Memorandum notes:

> The Federal Inspector would set up an administrative and technical staff to provide design review, fiscal and quality control, and construction inspection. This staff, along with the Agency Authorized Officers and their respective staffs, would monitor contractor compliance with the terms and conditions of all Federal permits and other authorizations. /114

AAOs "would each oversee a specialized staff of their agency personnel, located with[in the office of] the Federal Inspector."

> The Federal Inspector would establish, schedule, and supervise field inspection teams which include members of these staffs for the purpose of assuring proper conformance with permits and authorizations. The clear intent is to provide the Federal Inspector with full field supervisory authority over the [AAOs] and their respective staffs. staffs. /115

The primary advantage of the "maximum" option, according to the Memorandum, was the internalization of the AAO's agency mission into the OFI organization. OFI staff would recognize such objectives, particularly during enforcement activities, as their own. This would tend to ensure that the Federal Inspector's responsibility for project facilitation does not, as DOI officials and some congressmen feared, eclipse his regulatory obligations.

On the final question, the Memorandum supported a unified Federal Inspector budget, which included "not only the independent functions of the Federal Inspector but also the resources needed to enforce the various Federal agencies' permits and other authorizations." /116 The unified budget, once again, demonstrates OFI influence, once preserved for the ANGTS departments in the Martin/Fearnsides plan, was now being bestowed upon the new Federal Inspector. As the Memorandum notes: "Since the Federal Inspector would possess managerial control over all Federal govvernment surveillance of construction and enforcement of terms and conditions, this unified budget option is preferable because, without budget control, complete managerial control would be illusory." /117

The components of the Memorandum may be summarized as follows:

- The reorganization plan temporarily transfers "all of the enforcement authority of the various Federal agencies over the myriad permits, certificates, leases, rights-of-way, and other authorizations related to the Alaska Natural Gas Transportation System."
- The Federal Inspector is authorized to coordinate the issuance of authorizations, by the appropriate ANGTS departments, by serving as a "one window" contact and maintaining a critical path timetable for all authorizations necessary to the ANGTS.
- Supervision of the Federal Inspector is provided by the EPB, particularly whenever "appellate resolution of significant Federal Inspector-AAO disputes and major policy formulations" are involved.
- The AAOs integrate their enforcement authority into the OFI, where they serve as senior staff to the Federal Inspector. AAO disputes with the Federal Inspector may be presented to the AAO's EPB member, who will, if necessary, present the grievance to the full board for decision.
- The Federal Inspector formulates and submits an annual budget for all ANGTS-related government operations. /118

Seven days later, on May 17, 1978, the Memorandum, under Goldman's signature, was transmitted to Harrison Wellford, OMB's executive associate director for Reorganization and Management. Goldman wrote:

> Because of the critical importance of having a functioning Federal Inspector as soon as possible, the reorganization plan should be transmitted to Congress for approval during this session. As I discussed with you previously, it would be appropriate and necessary for the formal transmittal to take place sometime in June. Therefore, prompt review by the Reorganization Project at OMB would be most helpful. /119

The Memorandum, however, would not reach the Hill by June. OMB's PRP staff, hoping to facilitate congressional passage, invited staff from the leading oversight committees to preview the Memorandum's provisions. After this meeting, Bill Braun, counsel for the Subcommittee on Energy and Power in the House Interstate and Foreign Commerce Committee, listed "several areas of concern" in a July 10 memorandum to Frank M. Potter, Jr., the committee's staff director. /120 Together, his ten "concerns" constituted a serious indictment of the Federal Inspector idea as configued by the Memorandum. They are, in part, summarized below:

1 Absence of detailed analysis. Braun claimed that the Memorandum failed to satisfactorily specify the relationships and responsibilities of the OFI actors, particularly the Federal Inspector. For example, no standards, he argued, were provided regarding the Federal Inspector's enforcement v. expedition tasks or for review of AAO performance.
2 Lack of alternative analysis. Braun required more discussion of the Memorandum's version of the Federal Inspector idea and the various leading alternatives to it, such as the Martin-Fearnsides plan (strong EPB with management responsibilities). He wondered, among other things, if appeal of a Federal Inspector decision might be better addressed by the affected agency than the EPB.
3 More direct involvment of the FERC, perhaps through full EPB membership.
4 Legitimacy of transferring agency authority under Memorandum provisions. "If the total transfer of enforcement authorities from the respective agencies to the Federal Inspector is required because the delegation of such authority is beyond the purview of the President," Braun asked, "then how can the supervision of these authorities be delegated by the President to the Executive Policy Board? Should the enforcement authority be transferred instead to the [EPB]?"

Braun's letter was not good news for AGPO staff, which had shifted from under Goldman's jurisdiction in Energy's Office of Policy Development and Competition to the Federal Energy Regulatory Commission (FERC). It suggested that unless the EPB could quickly ally Potter and his boss, Rep. John D. Dingell (D-Mich.), the committee chairman, the reorganization plan, as envisioned in the Memorandum, was doomed in the present legislative session.

AGPO, in FERC, was now directed by John B. Adger, Jr., an FPC geologist who had been associated with ANGTS since its inception and who, only months before, assumed Goldman's seat as Energy's EPB member.

Adger received a copy of Braun's "concerns" on July 12 and, five days later, prepared and delivered a point-by-point response. /121 "It appears to me," he wrote, "that these concerns go primarily to the absence of detailed procedures and mechanisms in the draft reorganization plan." He continued:

> It is the contemplation of the draft plan that such procedures and mechanisms, structuring more precisely the relationships among the Federal Inspector, Executive Policy Board, and the respective agencies, are absolutely essential; however, we feel that the appropriate course of action is to carefully work those relationships out after the basic Federal Inspector authorities have been put into place. /122

The degree of detail suggested by Braun, Adger claimed, was "inappropriate at the present time."

> Once a Federal Inspector has been appointed, he will work with the respective agencies to develop the appropriate procedures and mechanisms to govern his field level supervisory authority over the [AAOs], and his role in coordinating the permitting process.

He noted that analyses of major alternative organizational and management scenarios had already been conducted by the late White House ANGTS steering committee and by the AGPO, now under the EPB's direction. Most alternatives, like the Martin-Fearnsides plan, were minor variations of existing arrangements, whose perceived failure in TAPS administration had given rise to the Federal Inspector idea.

FERC representation on the EPB, Adger explained, "was considered but determined to be an internal DOE matter."

> FERC clearly has substantial regulatory jurisdiction over this project, and as a practical matter it has actively participated in all Executive Policy Board actions.... The specific interrelation of DOE and FERC in terms of the [EPB] will be developed within DOE, and, because of the interest expressed by Chairman Dingell during the October 14, 1977, hearing on this aspect of the Decision, Secretary Schlesinger will correspond with him directly on this matter. /123

Finally, Adger explained that:

> The legal necessity of a reorganization plan, due to the transfer, not delegation, of statutory powers involved, does not undermine the overall supervisory role of the [EPB] as delegated by the President through an executive order. That executive order will delegate only those powers which the President himself would otherwise possess. Moreover, the supervisory and appellate role of the Executive Policy Board is set forth in the reorganization plan. /124

Meanwhile, the President's Reorganization Project (PRP) at OMB, under Harrison Wellford, now had primary responsibility for the OFI initiative, as described in the Memorandum. PRP's two principal OFI strategists were Jack Donahoe and John Freshman, who provided Wellford with a general assessment of the plan and its prospects on July 29, 12 days after the Adger letter. /125 The plan, they feared, was submitted very late in the legislative year for serious consideration, although active, sustained support of Schlesinger, the State Department and Vice President Mondale might turn the trick.

Much of the impetus to act quickly came from the Canadians. They had, in April 1978, established their new Northern Pipeline Agency (NPA) under Commissioner Mitchell Sharp, a Canadian Liberal "grey eminence" who served Trudeau as External Affairs minister and once contended seriously for the prime ministership. Sharp's appointment gave the office and the ANGTS a very high profile among Canadians and enabled the NPA to begin considering criteria for the qualification of suppliers of construction materials and services. As Deputy Secretary of State Warren Christopher wrote to Schlesinger:

> Although the State Department is conveying the views and desires of the U.S. on [pipeline issues] through diplomatic channels, the lack of a Federal Inspector [and his organization] deprives us of an important means of influencing Canadian actions. Also, further delay...risks giving rise to the suspicion that the U.S. is less committed to the Alaska gas project than is Canada. /126

Only a day before the Donahoe/Freshman memo, Gail Harrison, a chief aide to Mondale, advised that the Canadian ambassador had complained about the "slow pace of [American] organization of the construction management structure" to the Vice President. /127

Donahoe and Freshman reported that an executive order, officially establishing the EPB, was ready for presidential signature and that a leading candidate for Federal Inspector (Rhett) had been identified. All the ANGTS agencies, major environmental groups, the gas industry, the State of Alaska and nearly all the key congressional committees endorsed the Memorandum's OFI concepts. Only Dingell, they believed, stood between the OFI idea and its implementation. With DOE complicity, the PRP established a three-part strategy for placating Dingell's concerns:

1 Schlesinger and Charles B. Curtis, a FERC chairman and former Dingell committee aide, would meet or call the congressman soon to make the Memorandum's case and rebut the Braun letter.
2 If Schlesinger and Curtis were successful, Donahoe and Freshman would alert the other necessary committees for quick, appropriate action.
3 "Then, with the authorizing commitees on board, [the PRP OFI team would] make the appropriate and key members of the Government Operations-Government Affairs Committees aware of the interest in seeing the plan approved this year." /128

Dingell, however, would prove more resistant to persuasion than OMB and its ANGTS allies had imagined. On August 9, Dingell wrote Curtis, his former associate, and repeated that:

> I am very concerned that any reorganization plan presented with respect to the Alaska natural gas transportation system be of sufficient detail to provide an adequate opportunity to the Subcommittee to evaluate its merit and workability.... The difficulty I have with the suggested reorganization plan is that it lacks the kind of detail which would provide adequate assurance that the TAPS problems can be avoided with respect to the gas pipeline.
>
> Accordingly I request your views regarding the Subcommittee's [Braun's] memorandum and the need for a detailed reorganization plan before, rather than after, Congressional approval is sought. /129

There would be no reorganization plan, hence no OFI, in 1978. Curtis, on August 11, acknowledged receipt of Dingell's letter and reported that he had "initiated staff analysis of the plan and the problems you raise." /130 Nearly two weeks later, Smith, writing for Chairman Curtis, assured Dingell that the staff investigation was proceeding on schedule. /131

By September 25, an amended limited reorganization plan, refashioned with Dingell's concerns in mind, was presented to the EPB by Adger and Edward W. "Ned" Hengerer, a young FERC attorney instrumental in drafting the original Memorandum. /132 Essentially, the amended plan (1) specified more clearly the interrelation of the Federal Inspector and the AAOs and (2) explicated circumstances under which the FERC would have a full vote "in addition to that of the Department of Energy." In the later instance, FERC would serve as an official, voting member whenever AAO "appeals to the [EPB]...substantially affect the certificate of public convenience and necessity," usually administered by the agency. /133 After EPB discussions on September 25, language was once again altered to grant FERC an unrestricted role whenever certification was an issue. The plan stated:

> The FERC will participate as a full voting member of the EPB whenever it shall apear to the Chairman of the Commission, or his designee, that any matter to be considered by the EPB may affect the certificate of public convenience and necessity or other authorizations issued by the FERC. The EPB shall not consider any matter which the FERC Chairman, or his designee, determines may affect FERC authorization without a FERC representative present and without providing FERC an opportunity to be heard on such matter and to vote thereon. /134

The President's Reorganization Project continued to make marginal changes to the Memorandum, under counsel from the EPB, the AGPO in FERC, and the various ANGTS agencies. Alcan, which had reorganized as the Alaska Northwest Natural Gas Transportation Company, led by the sponsor Northwest Alaskan Pipeline Company (NWA), also participated in this process.

Even Rhett, the leading Federal Inspector candidate, shared his opinions with the PRP through Blum and Peter Cook, a young engineer who, as assistant director of EPA's Office of Federal Activities, served as the agency's EPB alternate. The PRP's OFI strategists, Donahoe, Freshman and William Harsch, appeared determined to fortify the Federal Inspector. Like the White House ANGTS steering committee before them, they came to believe that federal government's problems in marshalling TAPS could be traced to the absence of a central coordinator for project activity, lack of a single clearinghouse ("one window") for permitting and enforcement, and the inability of the relevant departments to designate a common authoritative agent for all enforcement. The Federal Inspector, they were convinced, must have both freedom and muscle.

On October 12, a third version of the reorganization plan was completed by the PRP's OFI team and quickly dispatched to the EPB for review. The third plan, still very similar to the original Memorandum, incorporated the new FERC language and bolstered the Federal Inspector even further. Eight days later, the board advised Wellford of its "strong endorsement" of the third version, pending a few modifications. /135 The most important of these was a stipulation that the AAOs "remain employees of their parent agencies throught the project," an original proposition implied by the Memorandum but later sacrificed by the PRP staff in their attempt to strengthen the Federal Inspector. /136 Martin and Fearnsides argued that without an official tie between the ANGTS departments and their AAOs, enforcement integrity could be compromised to the OFI's project expedition mission. They did not wish to lose complete control of their ANGTS agents, even if they functioned within the OFI organization.

By mid-November, however, Donahoe and Harsch were pressing Martin and Fearnsides again, this time on extending the Federal Inspector's authority to permitting as well as on the AAO employment issue. NWA was terrified by the prospect that its crews might be stalled at an Arctic construction site because a particular permit had not been issued. It had occurred, on occasion, during TAPS construction. NWA lobbied for one of two alternatives:

- Allow the Federal Inspector and the departments establish, with the sponsor, a permitting schedule which provides for automatic issuance beyond a certain date.
- "Make the Federal Inspector part of the Interior Department so he can issue the permits according to a schedule agreed upon with the project sponsors." /137

There was a third alternative: vesting total permitting authority for the ANGTS temporarily with the Federal Inspector.

The EPB, after meeting with Donahoe and Harsch, decided that NWA's two recommendations were too bold and, as one might suspect, DOI and DOT would not accept the third. Nevertheless, a compromise was struck. The Federal Inspector was charged with the "coordinated and expeditious discharge of

nonenforcement activities" by the ANGTS departments and agencies. /138 This responsibility included "requiring submission and adherence to scheduling plans for all permits, certificates, grants or other necessary authorizations..." /139 In other words, the Federal Inspector was directed to establish and enforce a permit schedule and had, under review of the EPB, authority to waive any permit if an ANGTS agency was unacceptably slow in issuing it. On the employment issue, each AAO would "remain an employee of his respective agency," but:

> These [AAOs] will be subject supervision by the Federal Inspector in administering the authority of their agency. The [AAOs] will be part of the [Federal Inspector's] office. /140

A fourth official draft, incorporating these changes, was completed by the PRP on January 9, 1979, and submitted by Donahoe to EPB members and other interest parties for review and final comments. /141 On January 26, Cook, acting for the EPB, responded to Donahoe's fourth draft. /142 His only substantial criticisms involved "the scope of authority to be transferred to the Federal Inspector" and an appellate procedure. PRP had, in this fourth draft, expanded Federal Inspector enforcement authority to all ANGTS agency responsibilities in the corridor, including those only tangentially related to the project and those for which the Federal Inspector was clearly not able to address. As Cook explained:

> It is our contention that the authority transferred should be limited to those enforcement activities associated with terms, conditions and stipulations of federal authorizations for the pipeline. We understand your rationale for transferring to the FI [federal inspector] the responsibility for all federal statues relevant in any manner to the pipeline. However, we feel this is basically a shotgun approach that creates substantial problems for the Federal Inspector and the Federal agencies. It would expand the Inspector's duties to include many that had not been previously envisaged, including those under such statues as the Eagles Act... and the Trans-Alaskan Pipeline Act. This wide ranging transfer of authority would make the Inspector's job almost unmanageable. As an example, under the Eagles Act the Federal Inspector would have to prosecute anyone who destroyed an eagle in the vicinity of the pipeline. We feel the language we originally proposed [in draft three] states precisely those authorizations the FI needed to efficiently and effectively oversee the preconstruction, construction, and initial operation of the pipeline without having to enforce statues only indirectly associated with the pipeline. /143

The PRP concurred on both points and yet another draft was prepared.

On March 8, 1979, Donahoe sent the fifth reoganization plan draft to EPB members for concurrence. /144 An Executive Order establishing and authorizing the EPB was attached. The plan was in the form of a decision memorandum, from OMB director McIntyre to Carter. The OFI reorganization issue was summarized as follows:

> If there is a strong Federal Inspector role, then agency roles in policy formulation and supervision are diminished. Yet the structure in which the Federal Inspector is to operate must support the objectives for which the Inspector was created; namely, assurance of prompt, cost-efficient construction of the pipeline at acceptable safety and environmental risks. Good manage ment suggests consideration of a strong Federal Inspector and strong agency oversight. /145

The decision memorandum set out polar options for Carter's consideration. In the first, the Federal Inspector served as a coordinator, working for an authoritative, active EPB along the lines of the original Martin-Fearnsides memo and DOI oversight of TAPS. The second choice, which granted the Federal Inspector line authority, envisioned a chief ANGTS officer managing the AAOs and virtually independent of the EPB. As the memorandum explains:

> [The] Office [of the Federal Inspector] would be organized like a traditional line organization. Enforcement authorities would be vested in Federal Inspector who would be authorized to delegate them to [AAOs]. Executive Policy Board would be advisory only. Responsibilities of Federal Inspector would include coordinating permit issuance. /146

The shift of authority was now complete. The governing EPB, illustrated in the Martin-Fearnsides memo, had been slowly but certainly replaced by a powerful Federal Inspector: an ANGTS czar. In the end, nearly all project authority was being bestowed upon him. He was granted enforcement authority outright and, through his scheduling and coordination, he managed the permitting process. The ANGTS departments were essentially disenfranchised, regardless of whatever subsequent institutional presence the EPB might take. The Federal Inspector was given muscle and the ANGTS departments, effectively, lost most of their grip on the project.

For DOI and DOT, the new transition from a ruling EPB orientation to ANGTS czar appears to have been effected by a combination of cooptation and concession. /147 Above all, Rhett, the leading Federal Inspector candidate, inspired confidence and, in the words of a leading ANGTS actor, "knew how to gather power to himself." /148 His engineering expertise, major construction management experience and general bureaucratic skills tended to disarm the opposition and to accentuate the virtues associated with a forceful Federal Inspector. He appeared, to most observers, to strike a proper balance between project expedition and regulatory integrity.

Being so singularly qualified, Rhett was afforded an influential role in shaping the office. He had many friends, both in the executive government and on the Hill, and he did not obscure his refusal, as Federal Inspector, to serve a superior board. In addition, and as noted earlier, Rhett showed no inclination for invading non-ANGTS departmental turf. He appeared intent on consolidating ANGTS authority under his OFI hand, but impressed as harboring little ambition for power apart from it.

Beyond Rhett's suitability and persuasiveness, there remain other explanations for the drift. First, OMB officials, in consultation with the President, the departments, the Congress, and the sponsor, decided that a powerful, independent Federal Inspector could best avoid the pitfalls that plagued TAPS monitoring. This was a bold new stroke, diverging from the ANGTA and the Decision, which had emphasized departmental representation. Project authority, OMB's PRP staff believed, must be clarified and centralized in a single agent, someone insulated from standard bureaucratic drag, single-agency domination and interdepartmental wars. Second, Schlesinger was himself sold on an independent OFI and an authoritative Federal Inspector. This personal preference, his intimate knowledge of the ANGTS issues and his close relations with Carter gave him, and his predilections and a favored status at cabinet meetings and in high executive counsel.

Third, Congress, after the TAPS, was determined that ANGTS oversight be more visible, more accessible and more responsive to congressional concerns. OFI consolidation, under the final plan, pulled the ANGTS together, in terms of activity and responsibility, into a single unit and under a single administrator, with independent budget authority. This facilitated Congress's ability to keep both an eye and an arm on the project. If a self-governed OFI detached ANGTS somewhat from departmental entanglements, it correspondingly made it more open and responsive to congressional inclination.

Fourth, the ANGTS sponsors, Northwest Alaskan (NWA), pressed for centralized government authority. The more ANGTS activity was consolidated, they reasoned, the fewer process problems they were likely to encounter in permitting and enforcement. Although a "one window" concept was envisioned in the Martin-Fearnsides plan, it was more consistent with a strong Federal Inspector scheme. NWA, after hearing of Rhett's probable appointment, suspected they could work with him easier than with narrow-interest agencies, such as the U.S. Fish and Wildlife Service. After all, a former Army Corps construction manager should have some appreciation of their problems. In any event, it would probably be easier to deal with one federal officer or agency than a dozen.

Finally, energy policy development in the Carter administration was being framed in dramatic style. America faced "the moral equivalent of war," Carter claimed, in dealing with its energy uncertainty. The OFI design, with its strong, independent Federal Inspector, represented a new and powerful weapon for the administration's arsenal. The OFI reorganization plan actually provided extra leverage, if emergency expedition was required, to make the ANGTS go. The Federal Inspector was granted new, supplemental authority under ANGTA provisions, the Decision and the reorganization plan. In effect, he could waive certain stipulations to accelerate pipeline construction which the departments could not.

Apparently, DOI was not reluctant in its concessions after the third draft. /149 At the outset, both DOI and DOT hoped to control the ANGTS action. Under the Martin-Fearnsides plan, they believed that they could

retain authority equal to their project responsibility through the strong EPB, despite the interposition of a Federal Inspector. However, as the Federal Inspector conceptually gained power and independence, DOI appeared to reverse its gears. Instead of continuing efforts to cut the flow of authority, DOI became increasingly willing, almost anxious, to facilitate it. DOI officials did not wish to answer for a project for which they had limited or lost influence. If they could not keep substantial control of the ANGTS, they were inclined to abdicate any substantial responsibility for it. If the Federal Inspector wanted to lead the project, DOI leaders decided, let him be held accountable for it. DOI, however, continued this official protest until Carter signed the final plan. Both departments would, in the following years, demonstate a lingering interest in an EPB revival or in absorping OFI, by agency or function, into their own organizations.

On March 13, Sen. Henry M. Jackson (D-Wash.) and Sen. Mark O. Hatfield (R-Ore.), respectively the chairman and ranking minority member of the Senate Committee on Energy and Natural Resources, advised OMB's McIntyre ["to fashion the final version of the [OFI] reorganization plan so as to give the Federal Inspector the strongest authority possible under existing law."] /150 In a four-page letter, Jackson and Hatfield recommended that specific stipulations be included in the plan:

- "The Federal Inspector must be able to overrule the enforcement action of an [AAO]; conversely he must be able to take an enforcement action if warranted in situtations where the [AAO] does not do so."
- "...the [EPB] must not be allowed to repeat the dickering among [AAOs] or between an [AAO] and the Federal Inspector. The presuption must be built in that the Federal Inspector's decision will prevail."
- "Unless the [EPB] reverses the Federal Inspector's decision within a specified period of time, his decision would be final and no longer subject to appeal." /151
- "The Federal Inspector himself must have authority to stop work in progress."

They concluded:

> The Federal supervision of pipeline construction will not be an easy task. The person in charge of the Federal presence must be fully equipped to handle the problems that will inevitably confront the project. The time for implementation of the President's Decision is long past due. We stand ready to assist you in moving forward on this vital project. /152

This was the support OMB and the AGPO need to quiet lingering dissent on the strong Federal Inspector issue.

A sixth and final reorganization draft, incorporating the concerns of the EPB and of the Jackson/Hatfield letter, was dispatched to the President in late March. /153 The polar option format, contrasting maximum delegation and minimum delegation, was retained. McIntyre, after assessing the two options, their advantages and disadvantages, concluded: "I recommend you accept our recommendation to establish the Federal Inspector with maximum delegation of authority." /154 Carter, on April 1, checked the "Maximum delegation" box and initialed it.

On April 2, 1979, President Jimmy Carter signed Reorganization Plan No. 1 of 1979 and dispatched it immediately to the Congress for approval. /155 In his submission letter, he observed:

> The Decision and Report to the Congress [on ANGTS] recommended an Executive Policy Board with policy-making and supervisory authority over the Federal Inspector. I plan to sign an Executive Order upon approval of this Plan by the Congress which will create an Executive Policy Board which will be only advisory....
>
> I am convinced that the Federal Inspector must have authority commensurate with his responsibilities. /156

Reorganization Plan No. 1 of 1979, in summary, established the OFI as an independent federal agency, transfered functions from the ANGTS departments to the Federal Inspector (enhancing some specific authorities) and prescribed, if very superficially, basic operating relations between the Federal Inspector and his EPB and AAOs.

Upon receipt of the plan, congressional resolutions of disapproval were offered almost immediately in both chambers: the House on April 3; the Senate, April 4. /157 Short hearings were held by the House Committee on Government Operations and by the Senate Committee on Governmental Affairs. In the Senate, Jackson used his hearing, on April 12, 1979, to promote project expedition and encourage OFI hiring within the Army Corps of Engineers. /158 The resolutions of disapproval were rejected, on May 23 in the Senate and on May 31 by the House.

Carter, on June 21, 1979, issued Executive Order 12142, which officially constituted the EPB in its new advisory role for the project. /159 Its initial paragraph stated that Reorganization Plan No. 1 of 1979, not disapproved by the Congress, would become effective on July 1, 1979. The board was enlarged to include two new members, the secretaries of Agriculture and Labor, or their designates. The FERC was granted an unconditioned presence. /160

Essentially, the EPB was directed to "advise the Federal Inspector ...on policy issues in accord with applicable law and existing Departmental or Agency policies." It was to offer guidance on enforcement matters and, at least every six months, "assess the progress made and

the problems encountered in the course of construction of the System." /161 The Federal Inspector was instructed to alert the board in writing of any enforcement waiver he issued. Since the board's functions were now limited to OFI monitoring and counseling, many of its original members, who had marshalled the OFI's development over the previous 18 months, relinquished their seats to subordinates or departmental specialists. Energy's Fearnsides was the first to go. Martin and Blum followed soon afterward. The major bureaucratic struggle was over.

Selecting the Federal Inspector

The new OFI was now founded, but the nation was still without its Federal Inspector. The search had begun shortly before Congress endorsed the Decision on November 2, 1977. The issue was first raised at the initial EPB meeting on October 27, called by Martin. Each EPB representative was asked to (1) provide standards, reflecting their department's leading ANGTS responsibilities, for a "blind" resume of the Federal Inspector, and to (2) recommend any candidate they believed might fit the composite job description.

The very earliest discussions of a Federal Inspector, dating back even before ANGTA, envisioned a highly-placed political appointee, of at least major commission status, to attend the strategic political activities of financing and Canadian relations, leaving actual the details of planning and construction oversight to a subordinate project manager. Among those first suggested as candidates, under this early concept, were Don Smith, the FERC vice chairman, and Les Goldman, Schlesinger's top energy trouble-shooter and one of the Carter Administration's government's leading "movers and shakers." They were primarily political operatives, endorsed by those convinced that the pipeline still had to be promoted on the floor of Congress, in corporate boardrooms and in investment banking houses before it would ever be buried in Alaska.

With the Decision and reorganization plan development, however, the Federal Inspector's job description changed. The position was much more narrowly defined, with strategic political considerations subordinated to managerial expertise and technical competence. There are several possible explanations for this. First, Schlesinger, from the beginning, had taken an active personal interest in the project. Given his stature and involvement, he may have been seen to displace any need for a politically-oriented Federal Inspector. What was required, instead, was someone well qualified in construction management.

Second, Carter's leadership philosophy, especially in his first term, was often based upon the assumption that a good idea, such as the ANGTS, would sell itself. After initial promotion to demonstate its advantage, the political imperative for selling ANGTS may have been perceived as over. Administration officials may have believed that after the formal stamp of ANGTA and Decision approval, the politics beyond an occasional intervention by Schlesinger - had ended and ANGTS success, from that point, involved primarily administrative and regulatory competence.

Finally, the ANGTS departments, as described earlier, intended to retain as much power as possible over ANGTS by creating a strong EPB, superior to the Federal Inspector. Any such plan, such as the Martin-Fearnsides plan, would not be acceptable to a polical operative like Goldman as Federal Inspector. If the departments wished to maintain their influence, they had to define the Federal Inspector position narrowly, in the mold of a bureaucratic project manager. In any event, the

change occurred. Rhett and his allies during reorganization plan formulation, however, did insure that the Federal Inspector, in this narrow, less politically-charged roll, controlled all significant activities of project review and construction management.

On January 24, 1978, Diana Rock, associate director of the White House Presidential Personnel Office, asked the EPB "to serve as a selection committee to receive and evaluate potential candidates for" Federal Inspector:

> Please make a report of the best candidates to me no later than February 28, 1978, along with recommendations for the best qualified individuals. The blind resume for the position previously prepared by your agencies should serve as a good guideline.... [W]e will endeavor to funnel all ideas and names we receive to your group for consideration. /162

Fearnsides, DOT's representative, coordinated the EPB's selection of a Federal Inspector. He, along with FERC, the Corps and EPA representatives, met with Rock to discuss selection criteria and procedures. /163 On January 26, Fearnsides advised his colleagues that candidate names, accompanied by resumes and "an expression of the individual's interest," must be submitted to him before February 15, 1978, to enable screening and comment by the EPB before White House transmittal. Submissions, he added, should address the major qualities identified for the Federal Inspector in the blind resume:

- Demonstrate successful management experience in multi-million dollar projects
- Coordinate and facilitate activities among Federal departments and between the Federal government and other levels of government
- Represent and communicate the "total [OFI] program," the view of integrated, consolidated oversight to the media, the EPB, State of Alaska and other interested actors. /164

From the beginning, it was assumed that candidates would be distinguished former officers of the Army Corps of Engineers, given federal hiring limitations and the low executive salary schedules in government. Schlesinger, still personally involved in the project, used his contacts at the Department of Defense (DoD) and the Central Intelligence Agency (CIA) to compile a short list of names to compare with the EPB's nominees. On the list was Jack Rhett, a retired Corps colonel and presently a major official at EPA.

On February 13, 1978, Blum wrote Fearnsides, independent of Schlesinger's counsel, "to submit for Executive Policy Board consideration the name of John T. Rhett, Jr. as a candidate for the position of Federal Inspector." /165 Rhett, she explained, was EPA's deputy assistant administrator for Water Program Operations and had "indicated a serious interest in the Federal Inspector position...."
She continued:

Mr. Rhett's eligibility as a candidate is strongly reflected in the following synopsis of his major career responsibilities:

° Management of the Environmental Protection Agency's $5 billion/year Municipal Wastewater Construction Grants Program (1973 - present).
  - responsible for planning and construction of 11,000 active wastewater treatment plant projects having a value of over $20 billion.
  - management includes frequent testimony before Congress and contact with local governments and all facets of the construction industry.

° Resident Member of the Board of Engineers, Corps of Engineers (1972 - present).
  - manages and directs the top Corps of Engineers professional staff in the independent review of all Corps water resource projects (value of projects reviewed averages $1.5 billion annually).

° Chief of Engineers, U.S. Army Construction Agency, Vietnam (1968 - 1969).
  - responsible for the U.S. Army construction program in all of South Vietnam.
  - responsible for development of a system to account to Congress for control of construction expendures, including combat zone activity.

I urge the Board to extend close consideration to Mr. Rhett's candidacy. /166

In a matter of days, Fearnsides had four leading prospects but Rhett, apparently, was the top choice from the beginning. /167 He was fully qualified both technically and managerially. An experienced civil engineer, he was familiar with major construction projects and capable of running them. He was sensitive to environmental concerns yet sympathetic to management's imperative to build a project within time and budget constraints. Rhett had served two of the ANGTS agencies (Corps and EPA), where he was known and respected. On the Hill, he had established a reputation as a competent manager and a cooperative, informed witness. His managerial style lent itself to conciliation and facilitation. Furthermore, Rhett was, in late 1977, ready for a new job and, according to Blum, might be willing to stay in government a few more years if the right opportunity came along. On March 3, less than a week after the submittal of candidates to OMB, Don Smith wrote Schlesinger:

> John Rhett...appears superior. He is also superior under the grading system established by the EPB and would head the list of candidates submitted to the White House Personnel Office by that group....
>
> Rhett has been interviewed by Les Goldman. Les tells me that Al Alm [a Schlesinger aide, appointed as an EPA deputy assistant administrator] recommends him highly. Charles Curtis and I will have visited with him Monday morning, and, unless you have problems, we should allow the recommendation to proceed as planned /168

The son of a military officer and a 1945 graduate of West Point, Jack Rhett had steadily worked his way up through the Corps. /169 He served in various staff and supervisory engineering posts during his first 10 years and managed, in 1952, to receive a master's degree in engineering from the University of California (Berkeley). In 1955, he was named Area Engineer in the Louisville Engineering District and in 1958, after a year at military school, was appointed Chief of Projects in the Corps Army Nuclear Power program. Several other engineering posts, both domestic and abroad, followed. In 1964-65, he spent a year at the Army War College, earning a second master's degree, in international relations from the George Washington University, and was then ordered to Europe.

In Europe, Rhett held two important and highly visible positions. In 1965, he acted as Chief of Land and Missiles Construction for the Supreme Headquarters Allied Powers Europe in Paris. The next year, he was named Commander of the Army's 11th Engineer Group, a base command of 2,000 men in training and construction missions. It was during this second assignment that Rhett was promoted to colonel. In 1968, Rhett was named Chief of Engineering for the Army's Construction Agency in Vietnam. In this role, he was responsible for planning, financial management, facility design and construction supervision of all troops, Army and Navy contractors in Vietnam. Rhett was obligated to report periodically to the Congress on his activities and he soon developed a new system for tracking and presenting this information.

In 1969, Rhett returned to Louisville as District Engineer. For three years, he supervised a 1,200-man construction force and managed a $100 million budget. He was responsible for planning, designing, building and operating Corps water resource projects in a five-state region. He learned to work effectively with state, local and other federal agencies in project development and environmental protection, and maintained cordial relations with the Congress. After eight months on the Corps' Board of Engineers for Rivers and Harbors, Rhett retired from active military service in March 1973 after more than 27 years in uniform.

But he would not leave government. That same month, he was appointed EPA deputy assistant administrator in charge of water program operations. He supervised a variety of important EPA programs, including municipal wastewater construction grants, ocean disposal and oil and hazardous materials spill control. Again, his position involved considerable congressional liaison work, often of a very sensitive nature, and frequent dealings with OMB.

But if Rhett was able, was he willing? He had developed, while supervising part of EPA's activities for the TAPS project, a casual interest in the ANGTS odyssey. However, he apparently was not aware of the OFI initiative or the new Office of Federal Inspector until Blum approached him in late autumn 1977. Blum, after contributing to and reviewing the Federal Inspector blind resume, thought almost immediately of her EPA colleague. "She said, 'We're hunting [EPB] someone to run

the new Office of the Federal Inspector,'" Rhett recalled, "'and you seemed like a natural.' It came out of the blue." /170 He reviewed material Blum sent him on the ANGTS and OFI. "The project appealed to me quite a bit," Rhett admits, but, after a long career in public service, he was now considering several opportunities in the private sector. "I wasn't sure," he explained, "if I wanted to stay in government."

Despite his ambivalence about remaining in public service, Rhett expressed a "serious interest" in becoming the Federal Inspector and, almost from the beginning, became the leading candidate. He did, however, harbor a variety of concerns about the OFI plan, as sketched in the Decision and in the Martin-Fearnsides plan. Two appear most prominent. First, and foremost, he saw the ruling EPB as defeating the basic purpose of the Federal Inspector concept. Central, independent authority was essential, he believed, to avoid the major problems associated with TAPS oversight and in order to expedite gas line construction. In other words, the Federal Inspector should be authoritative and unencumbered by the departments or by the EPB. "I didn't believe a committee could effectively" manage the ANGTS, he said. /171 In any event, Rhett himself would not be governed by one, as Federal Inspector.

Second, he could not abide the Federal Inspector's planned grade, Executive Level (EL) IV, for both professional and personal reasons. First, he did not believe the Federal Inspector, at EL IV, could be a grade level below his agency colleagues and operate as their equal. The Federal Inspector, to consolidate oversight and make hard enforcement decisions, required authority at least equal to the department representatives. Secondly, and regarding Rhett's personal circumstances, even at EL III, "salary and likely bonuses would probably be considerably more in my present position than the Federal Inspector at an [EL] III." /172 "Since I have no outside income," Rhett wrote Rock at the White House, "financial considerations out of necessity have to weigh heavily in any career decisions I make."

Rhett, from his nomination in February 1978 until spring 1979, remained on the edge of appointment but, through Peter Cook and other ANGTS actors, always at the center of project decision. His insistence on an authoritative, independent Federal Inspector appears central to the shift of power from the EPB, as in the Martin-Fearnsides plan, to the Federal Inspector. Rhett apparently knew how to parlay his professional qualifications, organizational experience, project ideas and personal associations, after 30 years in the government, into political influence. As an EPB member observed:

> In the end, even if we [EPB] would not have recommended him [for Federal Inspector] - and, of course, we all did - we may not have been able to block his appointment or his preferences for certain organizational arrangements. Jack Rhett knew how to gather power to himself. /173

On April 25, more than three weeks after the plan was adopted, Rhett wrote Rock to decline the post. /174 Under the new Civil Service Reform Act, he explained, acceptance of the position would result in "a major loss in salary and other benefits." He concluded:

> I have reviewed in detail the Reorganization Plan and believe the plan as now presented offers the best chance of success for an extremely difficult task. I believe that the proper foundation is being developed for the project.
>
> It is, therefore, with sincere regret that I withdraw my name from consideration for this position. I am deeply honored to have been considered for such an important and challenging assignment. /175

The OFI, in large part, was custom-built for Rhett and now, just as it was completed and approved, he backed away from managing it. Schlesinger, however, would not take "no" for an answer. Jack Rhett was, to his mind, the right man for the job and he was not about to lose him in part-stride over a stipulation. He approached Vice President Walter Mondale about allowing Rhett to retain certain Senior Executive Service (SES) benefits and options he enjoyed at EPA in order to preserve his current income level. Mondale agreed, and, later, personally appealed to Rhett to accept the position. Rhett, who had met with Schlesinger earlier, consented. The United States had its first Federal Inspector.

Ancillary Issues

As the OFI was being shaped and Rhett, courted, AGPO staff found themselves occupied with two other major responsibilities. First, the system efficiency (pipeline diameter) question, set aside during the Agreement on Principle negotiations between the United States and Canada in August 1977, had resurfaced. The Canadians were inclined toward a 54-inch, low-pressure (1120 pounds/square inch, or psi) pipeline while the United States was promoting a more efficient, but less usuall, 48-inch line, at considerably higher pressure (1680 psi). Second, the FERC had to develop an Incentive Rate of Return (IROR) mechanism to encourage Northwest Alaskan (NWA), formerly Alcan, to finish the job under schedule and within budget. The device had to be designed to prevent front-end cost padding by the sponsors.

In mid-November 1977, hardly a month after the Decision, a special DOT research team under Fearnsides' jurisdiction was formed to study the system efficiency issue with the Canadians. National teams met on November 16 in Ottawa to commence action on the technical study. /176 At the meeting, L.D. Santman, acting director of DOT's Materials Transportation Bureau (MTB), observed:

> Based on available empirical data [research at Battelle Memorial Institute] and Canadian experience with what they consider a comparable 42-inch pipeline, the Canadian National Energy Board (NEB) is now prepared to approve 54-inch 1120 psi [pipe]....

Further testing, the NEB concluded, would not be required. Santman continued:

> On the other hand, based on the same empirical data and because of the lack of any comparable operating experience, the NEB is not willing to approve 48-inch 1680 psi [pipe] without it first being proved safe through full-scale burst testing. They are convinced that the tests will prove the need for crack arrestors the design of which has not yet been perfected. /177
>
> Because pre-testing before deciding on the pipe size would have up to two year ripple effect on ordering and production of pipe, fittings and certain construction equipment, the decision on pipe size needs to be made as soon as possible - preferably early 1978 if construction is expected to start in 1979 on the Whitehorse-to-Caroline [Canadian] leg.

Furthermore:

> Because of their built-in limitation on the thickness of pipe that can be produced, most Canadian mills would not be able to produce the required thick wall (.72 inch) pipe for 1680 psi. No such handicap occurs for the thinner wall (.54 inch) lower pressure pipe. /178

In fact, Canadian steel firms could not produce 1680 psi pipe any easier than American firms could produce 54-inch, 1120 psi pipe. Therefore, the Canadians were no more likely to endorse a pipe size for their ANGTS section that their firms could not supply than the U.S. was to subscribe a size no American company could manufacture. And, of course, the United States could not demand the Canadians adopt a pipe size which was determined unsafe or unacceptable by the NEB any more than the Canadians could dictate to DOT the safety requirements of gas transmission on U.S. soil.

The dilemma was clear. There was, as far as Santman could see, only one perspective from which the U.S. could press its case: the 48-inch, high-pressure line could move gas considerable faster than the Canadian alternative. Speed, in this case, translated into reduced costs, which could save money for both American and Canadian consumers. It was on this point the Americans would have to persuade their northern neighbors.

DOT's MTB staff met once again with the Canadian NEB in Washington on December 13, 1977, but there was little resolution. After monitoring developments on system efficiency for Schlesinger and the EPB, Don Smith wrote to Thomas Enders, the U.S. Ambassador to Canada:

> The position of the Canadian Government representatives in this matter apparently has substantial political motivation. Only one of the two principal Canadian steel companies could [with substantial retooling] manufacture the thicker-wall 48-inch pipe necessary for the high-pressure system; both can make the 54-inch pipe. The company which cannot make the thick-wall pipe (Ipsco) is an Alberta company, 20 percent owned by Alberta Gas Truck Line [AGTL], a parent company of the Foothills group. /179

A compromise the United States might seek, Smith observed, was a 56-inch line, the standard international size in the mid 50-inch range. Canadian firms could easily produce it and transmission loss, when compared to the 48-inch, high pressure system, would be only two percent, as opposed to 19 percent with the 54-inch pipe.

Santman, at the December meeting, recommended the 56-inch option to J.G. Stabback, the NEB chairman who served leader of the Canadian negotiating team on the system efficiency question. He agreed to consider it, but saw no reason to postpone decision beyond February 20, 1978, for additional tests or reports. The NEB, he said, would entertain comments until February 13. On that date, Smith, through Enders, delivered a six-page letter, with over 100 pages of attachments, supporting and recommending the 48-inch, high-pressure pipe or, if unacceptable, the new 56-inch alternative. /180 As Smith concluded:

> ...[W]e strong prefer a 48-inch 1680 psi system since it would provide substantial economic benefits compared to either a 54-inch 1120 psi or a 56-inch 1080 psi system....

> We also recognize the importance of an early decision.... Even though we feel that the 48-inch 1680 psi pipeline can be constructed and operated safely and reliably, at essentially the same capital costs as the larger-diameter alternatives, and with considerable operating fuel economies, we recognize the Government of Canada's ultimate responsibility for final approval of system design in Canada. If the Government['s] concerns regarding a higher operating pressure are not assuaged, then we are prepared to accept the 56-inch 1080 psi alternative system if accompanied by a firm indication of intent to build the Dempster Lateral by 1990. Otherwise, we urge the 48-inch 1260 psi system proposed by the applicants [Foothills], with additional capacity to be added as needed with looping.
>
> Recognize, however, that the Canadian Government's approval of the 56-inch 1080 psi alternative system instead of the 48-inch 1680 psi system will adversely affect the price of gas to the United States consumer, as well as the Canadian consumer. /181

On February 20, the NEB recommended the 56-inch 1080 psi pipeline to Parliament, after discussing of the virtues of the 48-inch 1260 line and judging the 48-inch 1680 psi option as too "large [a] step into new technology." /182 Smith, the following day, publicly expressed his disappointment with the NEB's decision but, privately, was not surprised by it, given Canadian steel capabilities. /184 The Canadians reserved as sovereign right the final determination on the size of pipe crossing their territory and its lawmakers would not, any sooner than American congressmen, legislate their own steel firms out of competition for perhaps history's largest steel pipe contracts.

Dingell, chairman of the House Committee on Interstate and Foreign Commerce, would not take the NEB's news as philosophically. In a February 22 letter to Schlesinger, which he co-signed with Rep. Clarence J. Brown (R-Ohio), the committee's ranking Republican, Dingell declared that "several recent actions by the Canadian Government may be inconsistent with agreements with the United States, costing United States' consumers additional hundreds of millions of dollars and severely disadvantaging United States manufacturers, particulary our steel industry." /185

Canadian Bill C-25, the letter noted, "requires that the level of Canadian goods and services for the pipeline (called Canadian content) be 'maximized'" and stipulates a 56-inch pipeline size for their sections, too large for American steelmakers to readily produce. /186 As Dingell wrote:

> Both of these actions by the Canadian Government appear to be inconsistent with Canada's promise to ensure that the supply of goods and services to the pipeline project would be on generally competitive terms. Both actions effectively deny a fair and competitive opportunity for U.S. manufacturers to participate in the supply of goods and services to the pipeline in Canada. /187

Dingell's sentiment was echoed by a March 7 letter to the President from the influential Congressional Steel Caucus, composed of 170 representatives. /188 It concluded:

> As events now stand, the Canadian [NEB's 56-inch 1080 psi pipeline] decision freezes the hard-pressed U.S. steel industry from even bidding on important parts of the project. /189

Nevertheless, Bill C-25, the Northern Pipeline Act, passed the Canadian House of Commons on April 4, 1978, with both stipulations intact. /190 There was very little, Smith observed, that the United States could have done to change it. The bill, like the U.S. reorganization plan which would not be passed until a year later, created an independent office, the Northern Pipeline Agency (NPA), to provide consolidated regulatory oversight for Canadian ANGTS construction. Its Schedule III, "Terms and Conditions," specified in Item 10 (a)(ii) that:

> (a) the company [contractor] shall design a program for the procurement of all goods and services for the pipeline that ensures that
>
> (ii) the level of Canadian content is maximized so far as practicable, with respect to the origin of products, services, and their constituent components. /191

About two weeks later, an article in the Toronto Globe and Mail quoted a Foothills source who suggested that pipe for the ANGTS Canadian segment would be purchased through negotiation with the two Canadian firms capable of fabricating the 56-inch 1080 psi pipe. /192 Ambassador Enders immediately advised S. Robert Blair, Foothills' chief operative, that any "sweetheart deal" packaged for the Canadian steel firms would produce "a very strong political reaction in the States." /193 Blair insisted no such deal existed, even though he did favor negotiated contracts. They would produce, he believed, a more competitive result than open tender because they enabled access to industry cost and price information.

Smith, on May 11, wrote to congratulate Mitchell Sharp, the first Commissioner of the NPA, on his new appointment, but wasted little time before raising the Canadian procurement policy question. /194

> It will be no surprise to you that the first matter we need to take to take up with you is Canadian procurement policy, popularly referred to as "Canadian Content Policy." That policy is of interest to us because, first, the U.S. Government must inquire whether U.S. businesses are afforded opportunities to participate in pipeline construction if they are competitive. Second, protection of the U.S. gas consumer's interest will require assurance that [the Agreement on Principles] between the U.S. and Canada, which calls for supply of goods and services to the pipeline project on "generally competitive terms," is being complied with. /195

Smith asked that Sharp's NPA "keep us (the United States) continuously apprised of development and implementation of Canadian procurement policy." /196 Canadian negotiators during the post-Agreement pipeline talks, Smith added, "assured us that Canadian content policy was viewed as a tool to enhance competition, not restrict it."

Smith's only leverage with the Canadians appears to be an implicit suggestion that the FERC, as part of its regulatory responsibilities, could exclude Canadian expenses from its cost of service allowances that violated the Agreement's "competitive terms" specification for procurement. This implication, of course, had its limits. FERC could hardly deny the purchase price of pipe. Despite all the sound and fury over Canadian actions and the competitive terms stipulation, it was generally assumed from the start that the Canadians, for their segment, and the U.S., for its legs, would buy domestically and protect national suppliers. /197 Perhaps the prevailing attitude was best illustrated by Rep. Bob Eckhardt (D-Texas), in a colloguy with Smith during congressional hearings on the Canadian developments:

> Mr. Eckhardt: Well, then you are saying in effect that if this process [Canadian content] is established by the Canadian government, that in order to prevent that process from resulting in a de facto violation of the right of access on the basis of bidding, it would be necessary for the United States to have some process which would counter it in a practical way so as to take into account the countervailing interest of American suppliers of goods and services.
>
> Do I correctly summarize what you have said?
>
> Mr. Smith: I think so.
>
> Mr. Eckhardt: I don't mean to pin you down to any particular process, but at any rate, the United States would have to counter... what would be a very natural impulse on the part of the Canadian government to guide contracts toward their nationals.
>
> I don't mean here to criticize the Canadian government. I think the Canadian[s are] doing the kind of thing that we also try to do, but I just want to be assured that we are both acting with equal vigilance. /198

On July 25, 1978, Foothills completed its "Alaskan Highway Gas Pipeline Project Bidding Document," necessary for the procurement of approximate 1.5 million tons of steel pipe. /199 A company news release acknowledged that "STELCO [Steel Company of Canada] and IPSCO [Interprovincial Steel and Pipe Corporation, Canada's two largest steel manufacturers] are the only suppliers in North America presently capable of meeting specifications for the 1,085 miles of 56-inch pipe required for the project." It would begin its negotiation for pipe procurement in August and require bids by September 19.

Barely a week later, U.S. steel industry representatives met with Commerce Department officials in Washington. /200 They asked the Administration to approach the Canadians with two demands:

1 Extend bidding document preparation period for two months, until mid-November. The American companies believed that the STELCO and IPSCO, due to their relations with Foothills, had an unfair headstart in bid formulation.
2 Waive the usual 15 percent import tariff differential for the project. American firms, given a 13 percent currency discrepancy, were already at a serious disadvantage. They could not, they insisted, absorb another 15 percent and remain competitive.

The Canadians, however, would not relent. On November 29, Foothills announced that "only the Steel Company of Canada and Interprovincial Steel and Pipe would furnish the 1.5 million tons of line pipe required for the Canadian portion" of ANGTS. /201 Smith, Enders and Michael Calingaert, a deputy assistant secretary in State's International Resources Division, complained to Stabback, Sharp and other leading Canadian ANGTS officiaries over the next six months, but with little satisfaction. It became increasingly apparent that if U.S. steel interests desired ANGTS pipe contracts, they would have to concentrate on the American sections. /202

While the debate over system efficiency was being waged, a second controversy, one affecting project financing and cost controls, had arisen. AGPO and other FERC staff labored since September 1977 to design a regulatory device which would tie sponsor payback rates to construction performance. The Agreement on Principles, in its financing paragraph, stated that:

> ...the return on the equity investment in the Pipeline will be based on a variable rate of return for each company owning a segment of the Pipeline, designed to provide incentive to avoid cost overruns and to minimize costs consistent with sound pipeline management. /203

The Decision, among its Finance terms and conditions, added:

> If...final capital cost estimates [by Alcan] are not excessive [in comparision with original capital cost estimates filed with the FPC in March 1977], 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. /204

Under FPC/FERC rate review and approval procedures, U.S. transmission firms were entitled to a fair and reasonable return on their pipeline investments. Since the its Phillips II case in the early 1960s, the FPC had replaced market price determination with cost-based reimbursement. /205 Accordingly, gas pipeline firms realized a 12 to 16 percent return over any legitimate construction and operating expenses they incurred marketing gas.

The construction costs associated with most contemporary large-scale projects, from domed sports centers to fixed-rail rapid transit systems, had skyrocketed from original design to closing. This was particularly true for pipelines. TAPS, for example, was first planned at $863 million in 1968 but by completion in May 1977, actual costs had risen to $7.9 billion. /206 Such overruns, pipeliners argued, were inevitable given the cost, size and uncertainty of their often mammoth projects. Industry critics insisted that sponsors, once granted government certificates of convenience and necessity, had disincentive to restrain costs since standard regulatory practice essentially guaranteed them a percentage return on investment. If there was disagreement over the cause of escalation, there was no doubt about its effect of accelerating prices for ratepayers.

The variable or Incentive Rate of Return (IROR) mechanism was a rather unique regulatory response to the ratepayer's dilemma. It attempted to impose capital cost controls on the ANGTS sponsors. The IROR's objectives were two-fold:

- Minimally, to encourage sincere cost estimating, reporting and project design by NWA and other ANGTS segment sponsors from the outset of the project. Under the IROR scheme, the sponsor firms formulate initial cost projections which, after certification by the FERC or OFI, serve as a baseline for judging subsequent expenses. Cost escalation during the construction phase, under the IROR, would not usually be reimburseable. FERC officials, however, had to insure that sponsor companies did not "cushion" the original certification cost to account for substantial cost expansion.
- Ideally, to provide rate base incentives for project sponsors to finish capital construction within the certificated cost estimate and under schedule, as established jointly by the sponsor firms and the government. /207 The IROR has, as one OFI briefing document observed, "a simple underlying logic: reward minimization of cost overruns with higher rates of return on invested equity." /208

Intial FERC efforts to operationalize the IROR concept, as noted above, began with Carter's Decision and culminated eight months later when the FERC, on May 8, 1978, issued a Proposed Rulemaking on the IROR for public comment. /209 The "basic approach" of the rule, the FERC announced, was:

> ...[T]o lower the return on equity during operation as the actual rate base increases relative to the project [or certificated] rate base. However, incentive rates of return would not actually be employed to calculate the cost of service. Instead, an adjustment to the rate base would be made which is equivalent to the difference between the incentive rate and a normal rate. /210

The basic unit of measurement employed was the Cost Performance Ratio (CPR). /211 It would be determined by dividing actual capital costs, compiled after construction, by projected capital costs, the certificated cost estimate offered by the sponsor and approved by the FERC prior to construction activity. (Each factor would be adjusted for inflation and financing expenses.) If, for instance, actual capital costs totaled $1.3 billion on the East Leg and the certificated (projected) capital costs had been estimated at $1 billion, the resulting CPR would equal 1.3.

At the start of the ANGTS operation, the calculated CPR would be compared to an expected CPR, called the Center Point. The Center Point was best viewed as the likely percentage of capital cost overruns, given the FERC's experience with similar pipeline construction and the uncertainty associated with the ANGTS. The Center Point identifies the rate of return, a "profit" on equity, awarded the sponsor for meeting the expected CPR, or Center Point. A schedule of percentage rates for payback increments would be developed by the FERC around this point. The schedule's graduation would reflect the government's incentive structure.

Obviously, IROR cost factors were as critical to IROR determination as the process itself. A high Center Point, for instance, signaled FERC recognition of a more complex, unpredictable project and acceptance of a larger expected cost overrun. The rate schedule arrayed about the Center Point graduated the government's generosity or frugality in recognizing sound cost performance. Rates of broad range, theoretically, tended to increase incentives or disincentives. Correspondingly, a narrow range would have less marginal impact.

The FERC received written comments on its May 8 Proposed Rulemaking until June 14. For the next several months, the rule was revised to address many of these concerns. On September 15, 1978, the FERC issued a revised notice and once again solicited comments. The revised rule, in addition to outlining the IROR, established groundrules for project cost administration and financing. /212 Adger, in a memorandum to the commissioners, outlined its major issues and regulatory options. /213 His observations are summarized below:

° The pipeline equity investors, as noted above, would be granted a higher rate of return on equity for sound cost control performance and an additional risk premium on the rate of return for accepting the "unusual risks" associated with ANGTS. However, instead of extending the higher rate of return over the operating life of the project (as was usual procedure), a one-time adjustment "equivalent to the higher (or lower) rate of return on the unadjusted rate base" would be made to the rate upon commissioning. In effect, the sponsors would be rewarded or penalized for their cost performance immediately rather than gradually over the project's life.
° The producers were expected to finance and operate the gas conditioning plant at Prudhoe Bay and to accept a lower wellhead price initially in exchange for a higher prices later, but there was little incentive for their participation and no indication that it

would be forthcoming. Producers, by the President's Decision, were prohibited from owning equity in the project. Furthermore, the proposed rule specified that they must pay the cost-of-service on the pipeline even if they were unable to deliver the quantitites of gas designated in the contracts. In effect, the producers carried a liability for a system they did not effectively control.

The Canadians, in the meantime, were fabricating their own IROR, very similar to the American model. While the FERC and the NEB had worked closely to develop consistent IROR schemes, there remain differences between them, primarily with regard to cost factors. The Canadians, understandably, wanted to inflate their IROR factors sufficiently to easily entice financing. As the FERC saw it, Canadian officials may have been less sensitive to the cost impact a high IROR would have on American ratepayers, who would ultimately pay for project financing. On September 21, 1978, Smith advised Geoffrey Edge, the NEB's associate vice chairman and member charged with primary ANGTS oversight, that Canada's rates of return on equity were "higher than necessary," a full three to four percentage points above any rates previously mentioned in discussions by the two nations. /215 As Smith explained:

> A Non-incentive Rate of 19 percent and a Center [Point] Rate of 21 percent in Canada greatly reduce the economic advantage of an overland route when compared to an LNG system. You will remember we required a substantial differential in cost-of-service between the overland and LNG systems in order to justify giving to Canada such a large portion of the project's industrial benefits. /216

The FERC was also disconcerted by Canada's high 1.35 Center Point and its IROR schedule floor of 17 percent. (The floor suggested "that no matter how large overruns became, the Incentive Rate would not be reduced to less than 17 percent." /217)

About two weeks later, on October 4, Smith wrote Edge again to reiterate his concerns, most critically the high general level of Canadian rates of return. /218 Canada, Smith conceded, had a sovereign right to establish its own IROR factors, but in a joint project, that decision could not undermine the FERC responsibility to U.S. ratepayers and the Agreement on Principles. As Smith explained:

> I must be able to defend and support your decision to my FERC colleagues, within the Administration, before Congress, the state utility commissions, and the U.S. natural gas industry, along with its distribution and financial infrastructure, in the same way I must defend FRC's disposition on this matter. So while the equity return in your IROR proposal is exclusively yours to determine, it is one that I will have to live with and be able to support. /219

In a October 5 rulemaking, the Canadian factors dropped somewhat. /220 The floor slipped from 17 percent to 16 percent, but Center Point held fast at 1.35, or thirty-five percent. For the Canadian sections, the "filed costs" of $4.325 billion would be acceptable, given the

Center Point allowance, at $5.845 billion. /221 The IROR at Center Point was now down to 19.5 percent for northern Yukon sections, still above the U.S. rate. The Non-Incentive Rate, only 15 percent for the U.S. Alaskan section, was set at 18 percent for the northern Yukon.

Foothills, commenting on the NEB ratemaking, accepted the IROR concept for ANGTS "provided the methodology adopted and the rates of return selected are adequate to compensate the Canadian companies for all risks associated with the project, including those risks that are uniquely Canadian." /222 The ANGTS Canadian sections, Foothills claimed, "must be financed under circumstances which are different from those that exist in the United States." Specifically,

> 1 Interest rates and returns on equity for pipelines were traditionally higher in Canada than in the U.S.
> 2 Certain income tax benefits available to U.S. firms were not available in Canada
> 3 Canadian companies would have their actual construction costs measured for IROR purposes against their "filed capital costs" instead of final precertification costs, as with American firms.

These circumstances, Foothills argued, necessitated Canadian IROR cost factors at least as high as those cited by the NEB, and clearly higher than U.S. factors, if the government sincerely wished to attract investment.

On October 30, Enders met with Canadian Deputy Prime Minister MacEachen "to reiterate [U.S.] objection to the arbitrary increased in rates of return on equity embodied in the Canadian IROR proposal." /223 Smith advised Schlesinger of the meeting a few days later:

> Tom's demarche focused on the point that Canada's high rates might well attract investors at the expense of driving away all customers for the gas. Tom pointed out that the short-term supply effects of the new natural gas legislation would be likely to take some of the urgency out of tapping the Alaska gas reserves, and that, in fact, Congressman Dingell has already scheduled hearings (late January or early February) to inquire into whether or not the project continues to be economically viable. /224

Enders, in his final assessment of the meeting, considered it "doubtful that Ottawa will scale down its incentive rate of return proposal significantly." /225 He concluded:

> MacEachen was essentially noncommittal and gave no hint that he would intervene. However, point that project is entering a zone of potential jeopardy as a result of series of adverse, essentially unilateral GOC [Canadian government] decisions has been made. At minimum, GOC can be expected to proceed more cautiously and with greater consideration for interest of its U.S. partner [in the

future]. Additionally, some ground may have been gained toward pre-delivery of Alberta gas - since MacEachen gave impression that he recognized desirablity of making some offsetting accommodation of U.S. interests.

However we should not give up on this one. Follow-up by Secretary Schlesinger could give GOC the push it needs to make an adjustment in its numbers.

Smith did not give in. After his two failed pleas to Edge, he had become less concilitory in his counsel to Schlesinger on the IROR question question. Since Schlesinger was planning a Canadian visit in December to discuss energy matters, an opportunity was available for pressing the FERC's IROR case. As Smith wrote Schlesinger:

> I suggest you [Schlesinger] tell MacEachen that...we are not prepared to defend arbitrary Canadian actions designed to charge what the market will bear. Successfully achieving financing for the project is dependent on unqualified support for the project from both national governments on a continuing basis. If Canadian implementation performance does not become and remain more fair to U.S. interests than it has been over the past year, we will use our interim period of gas supply adequacy to revive the old El Paso project. /226

The Canadians, on the procurement issue, had insisted on low-pressure, 56-inch pipe, which Smith estimated would cost U.S. consumers almost $500 million due to its lower transmission capability and would effectively eliminate American steel firms from competitive bidding. Now, on IROR, Canadian rate schedules appeared to add another $2.1 billion to American consumer costs and, in Adger's and Smith's view, violated the understanding reached with the Agreement on Principles.

On December 8, Schlesinger arrived in Ottawa with a delegation of DOE and FERC personnel, which included Goldman and Adger, for a two-day meeting on U.S.-Canadian energy issues. /227 The ANGTS was high on the agenda. However, discussions revolved less around pipeline IROR or procurement, on which the Canadians held their ground, than on new export gas from the ever-growing Albertan gas bubble and the consequent effect of this gas source on ANGTS financing.

Adger, in a December 14 memorandum to the FERC commissioners, announced his belief that "the project's problems have nothing to do with the IROR mechanism." /228

> IROR is admittedly one more risk that the project sponsors must undertake, but the real question is whether or not the companies have to undertake any of these risks at all. If U.S. gas transmission companies can get all the gas that they want with relatively little investment from [western] Canada, Mexico, or the intrastate market, they are simply not going to invest in the Alaska project.

Canadian behavior appeared eclectic to Adger and the other leading American ANGTS players. If the Canadians had a "Northern pipeline strategy," it was proving schizophrenic. On one hand, the Trudeau govnment appeared earnest in its ANGTS support and worked diligently to secure requisite financing, even to the point of over-burdening American ratepayers and angering U.S. policy-makers. On the other hand, the NEB was approving a variety of new, long-term gas export contracts for Albertan producers anxious to exploit new American markets. Obviously, the Canadians found themselves, after the brief scare of 1975-77, with more natural gas than they could absorb domestically. The U.S. market, virtually abandoned only two years before, was attractive once again.

As for ANGTS, the Canadians retained their enthusiasm but the NEB's gas export approvals cast very different light over its financing prospects. After all, if the Canadian government sincerely wished to tap Arctic gas and facilitate ANGTS construction, why would it prepare to flood the United States with Albertan gas, far less expensive than Alaskan gas? How could the Canadians assure investors that an ANGTS gas market existed when they were planning to saturate it at the very same time? Schlesinger, in Ottawa, "made this point to the Canadian Government in no uncertain terms": the Canadians were undermining ANGTS financing efforts by so generously servicing the lower 48 states with Albertan gas. /229

The United States, in a forceful DOE policy statement, demonstrated its resolve to block gas imports which might undermine the ANGTS. /230 The statement explained that the United States would "give major consideration to whether [subsequent import contracts] will facilitate early construction of the Alaska Highway Pipeline Project." Henceforth, U.S. applications for Canadian gas imports would be assessed, in part, in relation to the firm's enthusiasm for the ANGTS, as demonstrated by consortium membership. Applications from consortium companies, anxious to import gas, would be viewed sympathetically by the FERC. As the DOE statement concluded:

> Assuming the appropriate regulatory findings are made and increased gas for export to the United is made available [by the Canadian government], FERC is urged to expedite its consideration of all specific applications for gas sales which facilitate financing and construction of the Alaska Highway Pipeline Project. /231

The Canadians issued a similar statement. It explained:

> One means of accelerating the building of this pipeline may be the financing and construction of southern sections on the basis of the supply of Alberta gas - on a swap basis, if that is considered necessary and desirable. The United States Government has indicated that it would be prepared to license swaps between willing buyers and sellers. In those circumstances, the Canadian Government would favour and encourage pre-building provided there are adequate guarantees of the completion of the whole of the pipeline. /232

The "Prebuild", as noted earlier, was ANGTS Phase I, the looping of existing pipelines and the construction of new segments from James River Junction, where the lower legs split in southcentral Alberta west to Stanfield, Oregon, and east to Ventura, Iowa. (The East leg would consist almost entirely of new pipeline construction across the Northern Plains.) Standing alone, it comprised an ideal delivery system for Alberta's gas. If American transmission firms and distributors desired Canadian gas, ANGTS, under new DOE policy, would be both the price for securing it and its Prebuild the highway for its delivery. The Canadians could market Albertan gas, but only under conditions which, supposedly, would facilitate the project. The new strategy accommodated the split Canadian personality: it fostered ANGTS ambitions while it provided a relief valve for Albertan producers, desperate to sell their excess gas in the United States.

In a sense, roles had reversed on the early delivery question since the Decision and Agreement on Principles. At that time, in Autumn 1977, it was the United States that promoted the Prebuild as a means to supplement waning domestic supplies and the Canadians, with dismal reserve forecasts of their own, somewhat reluctant to service U.S. needs. In the United States, the Natural Gas Policy Act (NGPA), passed by the Congress on October 15, 1978, was largely responsible for the switch. The NGPA deregulated newly discovered gas and stimulated American alternatives to the new Albertan gas availability. /233 It promised to rejuvenate domestic exploration and interstate sales, thus rendering Canadian gas less essential and Canadian dispositions on the ANGTS, less determinate.

Adger, in a memorandum to Schlesinger, wrote:

> No matter what the U.S. Government does, the project is going nowhere until the Canadian Government clarifies the situation regarding exports of Canadian gas. U.S. gas companies will simply refuse to assume the risks inherent in the Alaska project if they can have access to Canadian gas supplies without participating in the project. /234

With this remark, Adger, in December 1978, echoed the prophetic Wall Street Journal editorial, published in September 1977, a day before the Decision: Without government policy forcing the issue, "you simply won't get the expensive [remote] energy resources so long as there is a [chance] cheaper ones may be around."

The commission must question, Adger wrote, "whether or not this project is [still] in the interest of the gas consumer." /235 If, in fact, natural gas from Canada offered a less expensive, reliable and secure source sufficient to meet American needs, why force the ANGTS against the grain of prevailing market forces? Of course, decision on ANGTS rest with the Congress, which based its earlier judgments in favor of the project on national security as well as consumer considerations. It has signaled no change of heart, although the issue would slowly lose its prominence on the national agenda as the "energy crisis" eased.

The commission issued Order No. 17, "Order Attaching Incentive Rate of Return Conditions to Certificates of Public Convenience and Necessity," on December 1, 1978, just as the Canadian export issue began to dominate discussion. /236 It presented the IROR mechanism very much in its final form. On December 21, the day oral hearings on the order began in the United States, the Canadians completed the final draft of their "Proposed Approach to Incentive Rate of Return for the Northern Pipeline." /237 Again, there was some downward movement on the rates. As the NEB observed:

> These [new] rates of return are significantly lower than the original [October 5] proposal, by 1.75 percentage points for the zone in the Yukon north of Whitehorse, and by 0.75 percentage points for other Yukon, Northern British Columbia and Northern Alberta. /238

The Center Point was graduated, from a high of 1.45 for Yukon sections north of Whitehorse to a low of 1.2, a tenth of a percentage point below the Alaskan rate of 1.3, for southern Alberta. The Canadian IROR at Center Point, once as high as 19.5 percent, was lowered somewhat to 17.75. Finally, the floor remained at 16 percent and Non-Incentive Rate, was cut from 18 percent to 17.25 percent. Despite these alterations, the Canadian rates remained considerably more generous to investors than those envisioned below the border and ANGTS sponsors, at the FERC's oral hearings, complained of the commission's frugality. /239

In early January 1979, Edge met with Smith and Goldman in Washington to discuss alterations in the Agreement of Principles and its cost annex (Annex III), necessitated by predelivery arrangements. /240 A quick deal was closed, with a slight cost adjustment made to the advantage of U.S. consumers. Canadian producers would now be able to export extra Canadian gas, with NEB approval, through the Prebuild sections of the ANGTS, once completed. American pipeline and distribution companies, presumably those associated with the ANGTS, would be able to supplement their supplies at the conclusion of Phase I at reduced cost.

The procurement issue, however, refused to go away. While Smith and his FERC colleagues had conceded the steel pipe controversy to the Canadians, they were not about to let "Canadian content" criteria dictate all project purchasing. Foothills, in mid-December, had circulated a draft of its "Procurement Program" and Robert G. Sands, a FERC analyst who reviewed the document, told Adger on January 10 that he found the draft "unacceptable!" /241

> The document admirably meets the Canadian political goal of maximization of Canadian content while carefully staying within the strict letter of the law in interpreting the Principles of Agreement [Agreement on Principles]. Yet, it totally fails to address US legitimate concerns for a fully transparent procurement process as outlined by the US Delegation on October 12, 1978 and reiterated by Secretary Vance and Secretary Schlesinger [during meetings with their Canadian counterparts].

> Without an agreed proceedure to meet USG concerns, I firmly believe...this document will not only undermine the USG's efforts for continued close joint cooperation, but will also surely congeal US Congressional opposition to delay or reassess the Project.
>
> I do not see how either FERC or the Department of State can defend this document as it now stands before Congressional scrutiny. /242

Philip L. Essley, Jr., another Adger aide, concurred:

> The proposed procurement policy would be perfectly logical for a Canadian pipeline transporting Canadian gas to Candian consumers. From the U.S. point of view it is totally unacceptable for a pipeline primarily transporting U.S. gas to U.S. consumers and to be paid for by U.S. consumers. /243

Adger agreed. Six days later, he advised Ambassador Enders "to make an urgent demarche to NPA [Canadian Northern Pipeline Agency] Commissioner Sharp." /244

> You should indicate that the procurement plan is unacceptable because of its discriminatory procurement politics, and request that it not be presented for paliamentary review or publication until we can reach agreement...[and] ensure that "generally competitive terms" are seen to be met. /245

Enders and Sharp met two days later, on January 18. After Enders related the FERC concerns, Sharp insisted "GOC is not rejecting U.S. concerns and took pains to explain pipeline agency's efforts to modify original Foothills draft procurement plan in hope present version would be satisfactory to USG." /246 He noted that Foothills, despite the Agreement on Principle's stipulation of "generally competitive terms," was governed by Canadian law which required Canadian content be maximized. Foothills, according to Sharp, had made a sincere effort to reconcile its contradictory charges. In any event, he proposed a meeting in January to discuss the issue further. Sharp and Edge would confer with Smith, Adger and other leading FERC officials on January 22 and 23, 1979, in Washington. The IROR, procurement issue and tariff matters were discussed to no one's satisfaction. /247

Lack of progress, particularly on the procurement issue, concerned Dingell and Eckhardt of the House Committee on Interstate and Foreign Commerce. On February 9, in a letter to Schlesinger, they charged that Foothills, particularly after the Canadian pipe procurement incident, refused to honor the "generally competitive terms" specification in its procurement activities. /248 Consequently, they directed Schlesinger to "detail...the regular procedures, safeguards, or other mechanisms that have been established...to insure that U.S. businesses have an adequate opportunity to supply goods and services for the pipeline" and submit them to the committee for review.

Of course, no "regular procedures, safeguards, or other mechanisms" yet existed to detail. Smith, responding for Schlesinger, explained to the congressmen that "the U.S. has [only] been able to use the consultative process to promote equal access" for American firms. /249 Thusfar, "more established procedures and mechanisms of the types referred to in your letter need to be inaugurated, and we are working to achieve that result." Smith, following legal guidance from Calingaert at State, decided not to share the Foothills "Procurement Program" draft with the Hill. /250 The document surely would have infuriated Dingell and quite possibly scuttled the entire project. Dingell, despite Smith's cryptic response, backed off temporarily. Smith knew that the congressman would not suffer another procurement debacle like steel pipe controversy without serious incident. FERC, over the next several months, pressed Sharp and the NEB members, particularly Edge, even harder on the IROR and procurement questions.

On March 3, Trudeau visited Carter in Washington to discuss the world energy situation, which had, in January, undergone a rather significant development with the fleeing of Shah Mohammed Riza Pahlevi from Iran and the consequent 44-day suspension of Iranian oil exports by the new Bakhtiar government. /251 After a rather brief conference, the two leaders issued a "Joint Communique on Energy," which acknowledged their energy interdependence and pledged them to "enhanced bilateral cooperation in the energy field." /252 Also, there was some specific discussion of the ANGTS, which Trudeau acknowledged during a brief afternoon press conference on the South Lawn of the White House:

> On energy, there is the major question of the Foothills Pipeline. I was reassured that President Carter insisted that there was desire on the part of the U.S. Government that it be proceeded with and that no one certainly in his Administration had any doubts about that. /253

The Canadian government, despite the pressure of western producers sitting on the expanding Albertan gas bubble, was not anxious to continue gas export concessions to the United States without some kind of substantial return, particularly in this era of energy shortage. For one thing, any generous NEB export deal with American transmission and distribution firms would most certainly be interpreted as a political "sellout" by Trudeau and be cast back at him by the opposition at the earliest electoral opportunity. There existed, in Canada as well as in the United States, a new grassroots consensus that native natural resources should be reserved for domestic consumption, regardless of "market" circumstances or producer proclivities. The government's obligation, in fact, was to preserve such resources, not accommodate their foreign transfer.

Trudeau was willing to increase Canadian gas exports south through the proposed Prebuild, the but only in exchange for paybacks later in the form of Alaskan gas, once Phase II (Alaskan and northern Canadian legs) was complete. ANGTS Phase I - the Prebuild may have represented the ideal excess supply system for Albertan gas producers, but it

constituted little more than a sieve to Canadian nationalists. Phase I was acceptable, from this nationalistic perspective, only in concert with Phase II, which enabled connection to Canada's own Arctic reserves in the Mackenzie Delta and the Arctic Island through the Dempster lateral. Any new exports would be negotiated as "swap" gas - Albertan gas shipped early, once the Prebuild was completed, in exchange for Alaskan gas shipped later, upon the construction of Phase II. This, in essence, was the deal that Edge had cut with Smith and Goldman in early January. It was, therefore, paramount to Trudeau that the U.S. pledge its unequivocal support to the Alaskan leg.

On April 5, 1979, new procurement consultations began in Ottawa. Only three days before, Carter had signed Reorganization Plan No. 1 of 1979, which created the Office of the Federal Inspector and gave the U.S. delegation, led by Schlesinger, new impetus to resolve lingering differences with the Canadians. The March 3 "Joint Communique" contributed to a new climate of reconciliation. Of all outstanding ANGTS issues, procurement pinched most for the Americans. IROR rates, tariff questions, and gas "swap" incidentals still enjoyed a suspense cushion, but Foothills, the Canadian sponsor, had already ordered its steel pipe and was now shopping for compressors. An understanding was required immediately. American concerns with Canadian procurement policies were summarized by the State Department:

> ° The US steel industry claims that it lost the tender for pipe on the Canadian portion of Alcan [ANGTS] because of vague and unfair procurement procedures. Other US companies may make similar claims about upcoming contracts.
> ° FERC's inability to monitor costs on the Canadian portion of the line could provide the basis for a challenge of FERC-approved pipeline tariffs in US courts. The possibility of such a challenge could make it extremely difficult to obtain financing for the pipeline. /254

Schlesinger, in Ottawa, hoped (1) to obtain fair procurement procedures and enough information to address the U.S. steel industry's accusations and (2) to gain sufficient access to the Canadian certification process to assure that Canadian costs would be "just and reasonable," within the standards exercised by the FERC.

Foothills' award of pipe contracts to STELCO and IPSCO in November 1978 was regarded by American ANGTS officials as a fait accompli. The Foothills consortium, led by Blair, unilaterally established its procurement procedures and accepted bids long before the United States had any review apparatus in place. Now, Foothills was inviting Canadian firms to bid on compressors. As the State Department observed: "If Foothills awards the $300 million compressor contract soon, more than half of the equipment purchases for the pipeline will be let before we establish mutually satisfactory procurement procedures." /255

The April 5 consultations proved successful. /256 Both sides immediately agreed that minor item procurement should be accomplished under normal commercial practices. The publication of the winning bid at the conclusion of the process would suffice to meet the "generally competitive" procurement stipulation. The Canadians, after hearing the American case, promised to assess the U.S. team's suggestions, consult with Foothills, develop a set of guidelines for consultations under paragraph 7B of the Agreement and submit these guidelines at an early date to the United States government for comment. The Canadian process, as outlined at the consultations, consisted of the following elements:

° Broad access to the bidding process. Qualified U.S. authorities will have a chance to review the bidders list to ensure that all interested firms have a chance to compete. The GOC has given the U.S. the bidders list on compressors, and on valves and fittings.
° A basis-for-award process which identifies those firms capable of meeting "generally competitive" criteria (including reliability, deliverability, quality and service as well as price) and identification, from among this generally competitive group, of those firms capable of providing maximum potential industrial benefit to Canada.
° A review process by which follow-through on procurement principles would be verified. /257

Nothing, of course, could reinstitute steel pipe bidding on the Canadian section and the Canadians, by the FERC's assessment, had not hesitated before in violating an agreement. But, nevertheless, the new consultations would go far in satisfying Schlesinger's concerns. Smith, at last, had something substantive to offer Dingell. On May 15, Douglas J. Bennet, Jr., State's assistant secretary for Congressional Relations, wrote the congressman with the news:

> I can assure you that we, and the other agencies working with us in monitoring Canadian practice in this matter, will scrutinize these Canadian proposals closely with a view to ensuring maximum possible openness in the procurement process consistent with the Agreement, and with U.S. and Canadian implementing legislation. /258

The joint procurement guidelines, which would be established later along the lines described above, would hardly represent a major diplomatic victory for the United States. They did, however, prevent another Foothills procurement "fait accompli" after the steel pipe incident and established necessary transparency for FERC regulatory review. Eckhardt's goal of "equal vigilance" in the procurement process would, finally, be approximated.

As for IROR, the Canadian factors would dip no lower. The gap, do to the persistence of Smith and Adger, had closed significantly between the NEB and the FERC. Smith's fears that American ratepayers might be unjustly burdened with disproportionately high finance costs on the Canadian sections were reduced, although major financing would

not be secured. The FERC, over the next two years, would issue a dozen rules and orders, refining the IROR mechanism, establishing tariff provisions and fixing IROR factors. When Jack Rhett officially assumed his duties on July 13, 1979, no less than eleven separate FERC actions remained outstanding. /259 Nevertheless, by April 1979, the basic IROR structure was complete and the general range of cost factors, decided.

From April 2, when Carter signed the reorganization plan and the OFI was imminent, until July 1, 1979, when it officially came into being, a great deal of "old business" was concluded. Rhett had first refused then, upon personal appeals from Schlesinger and Mondale, accepted as the nation's first, Federal Inspector. The FERC's Alaska Gas Project Office (AGPO), assisted by State Department representatives, had hammered out reciprocal procurement procedures and reconciled major differences on the IROR with the project sponsors and the Canadians.

FIGURE 1-11: Summary of Federal Inspector Responsibilities

A. GENERAL MONITORING & OVERSIGHT

The Office of the Federal Inspector (OFI) has several monitoring functions, authorized by Section 7(a)(5) of the ANGTA and transferred to OFI by Section 102(h)(2) of the Reorganization Plan.

1 Coodinating Efforts with Alaska. The OFI is to establish a "joint surveillance and monitoring agreement" with the State of Alaska, required by Section 7(a)(5)(A) of ANGTA. In this way federal and state enforcement efforts can be coordinated to avoid conflicts and enhance efficiency.

2 Monitoring Compliance with Federal Laws. The OFI is to monitor sponsor compliance with the many federal permits and other authorizations issued for ANGTS. (ANGTA Section 7(a)(5)(B)). This includes compliance with the terms and conditions attached to the authorizations.

3 Monitoring for Effective Planning. Apart from the specific federal laws, the OFI is to "monitor actions taken to assure timely completion of construction schedules and the achievement of quality of construction, cost control, safety and environmental protection..." (ANGTA Section 7(a)(5)(C)). This monitoring function requires that the OFI closely follow all aspects of project planning and execution, which necessitates substantial interaction with the sponsors.

4 Reporting to Congress and the President. One of the main purposes of such monitoring functions is to provide information for the OFI's quarterly reports to Congress and the President (ANGTA Section 7(a)(5)(E)).

B. PERMIT SCHEDULING & COORDINATION

The Reorganization Plan differentiates between permitting and enforcement, with only the latter function being transferred to the OFI. Nevertheless, the OFI is responsible for scheduling and expediting the issuance of permits and other authorizations by the federal agencies. This scheduling function evolves first from Section 9 of ANGTA, directing all federal agencies to expedite permit issuance, and then from Section 202(b) of the Reorganization Plan, requiring the OFI to coordinate "the compliance by all the federal agencies with Section 9..."

OFI coordination can take the form of "requiring submission of scheduling plans for all permits" and "serving as the 'one window' point for filing for and issuance of all necessary permits" and data requests. This coordination function exceeds mere permit scheduling. It also involves the OFI in evaluating the many discretionary terms and conditions, which each federal agency will impose on ANGTS, to assure they do not impair project expedition.

C. APPROVAL OF SYSTEMS, PLANS & DESIGNS

While much of the OFI's permit enforcement function will be performed during construction itself, a separate list of responsibilities requires the OFI to review and approve major aspects of ANGTS planning. The President's Decision stipulates certain terms and conditions, set forth under Section 5, to be enforced by the OFI, both by the express language of that section and also by Section 102(h)(3) of the Reorganization Plan.

The most significant of these systems, plans and designs are the following:

1 Management Plans. The ANGTS sponsor companies must provide a "detailed overall management plan" for OFI approval (Decision, Section 5, Construction Costs and Schedule Condition I.1). Thus at the outset, the sponsor's overall strategy for managing its involvement in the project will be reviewed and assessed by the OFI.

2 Execution Contracts. While the OFI does not approve all contracts, several aspects of the execution contracts must be approved by the OFI (Decision, Conditions I.2,3,7 and 9). These include contract form (if other than fixed-price), bonding and other prequalification requirements, labor relations and dispute procedures.

3 Cost & Schedule Control. The sponsors must provide the OFI with detailed "cost and schedule control techniques" (Decision, Condition I.4). The costs and planning for manpower, material, logistics, repair facilities, spare-part inventories, and equipment are thus subject to review.

4 Design Review. The OFI's technical oversight is manifested most in its approval of "final design, design cost estimate, and the construction schedule" for the ANGTS sponsors (Decision, Condition I.5). Construction may not start until this approval is given, and is therefore the OFI's primary means for assuring that safe and cost-effective engineering and environmental designs are used in the construction of the pipeline.

5 Quality Control and Assurance. The OFI must also approve the procedures proposed for quality control and quality assurance during construction (Decision, Condition I.9). Apart from these procedures, the OFI must approve technical construction specifications and seismic monitoring systems to assure pipeline safety and integrity of construction, as well as approve plans to assure environmental protection (Decision, Safety and Design Conditions II.2 and II.6, and Environmental Condition III.2).

6. Procurement Review. As part of the bilateral agreement with Canada relative to ANGTS, the OFI, along with the Northern Pipeline Agency in Canada, is responsible to "ensure that the supply

of goods and services to [ANGTS] will be on generally competitive terms" (Decision, Section 7, Agreement Between the United States of America and Canada on Principles Applicable to a Northern Natural Gas Pipeline, Paragraph 7(a)). Because sanctions for violations include reopening bids, this procurement review occurs during the planning process, not after the fact.

D. COST CONTROL

Although the desired effect of much of the OFI's monitoring function and of many of the OFI approvals discussed above is cost control, the OFI has additional cost control responsibilities. The Incentive Rate of Return (IROR), developed by the FERC, is to be administered by the OFI during planning and construction (Determination of Incentive Rate of Return, FERC Order No. 31, Docket No. RM78-12, issued June 8, 1979). Moreover, both by transfer of enforcement function under the Reorganization Plan and also by delegation from the FERC, the OFI will exercise the consumer protection function of auditing costs and evaluating the prudency of expenditures for rate base formation.

E. ENFORCEMENT OF FEDERAL LAWS

The OFI's enforcement function extends to "all federal statutes relevant in any manner to pre-construction, construction, and initial operation" of ANGTS. The specific statutes that have been identified in Section 102 span the full spectrum of federal regulatory law. They include, for example, environmental protection under the Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act, Rivers and Harbors Act, Fish and Wildlife Coordination Act, National Historic Preservation Act, Wilderness Act, Endangered Species Act, Wild and Scenic Rivers Act, National Environmental Policy Act (NEPA); pipeline integrity and safety under the Natural Gas Pipeline Safety Act; public utility regulation under the Natural Gas Act; and public land use under the Minerals Leasing Act, Federal Land Policy and Management Act, Materials Act, Rights of Way Through Indian Lands Act, National Wildlife Refuge System Administration Act, Land and Water Conservation Fund Act, National Forest Management Act, Multiple Use-Sustained-Yield Act.

Source: OFI Transition Book, "Basic OFI Responsibilities," December 31, 1980, pp. 1-4.

Getting Started

There was, as well, the new business of organizing and operationalizing a foundling agency, in order to prepare it for sponsor activity. The sponsors, particularly the Northern Border Pipeline Company, The East Leg sponsors and NWA were anxious that the OFI be organized quickly to avoid any further delays in approving initial plans and preliminary permits. A major objective of the OFI idea, of course, was to expedite sound governmental review. Yet, review could hardly be facilitated by an agency that did not exist. As a consequence, of OFI absence the regulatory process had actually slowed. Failure to institute the OFI earlier had also, in the American steel industry's view, allowed the Canadians an opportunity to avoid competitive pipe procurement.

In spring 1979, a new inter-agency group, the OMB/OFI Task Force, was created to facilitate OFI creation and allow the new agency a running start in several of its oversight responsibilities. The Task Force was comprised of a wide variety of leading ANGTS governmental players: OMB officers with OFI experience, such as Donahoe; Rhett and his unofficial entourage, which included Cook; the original EPB, alternates and Russell Soulen, its acting executive director; FERC's AGPO staff, which led the reorganization plan, procurement and IROR initiatives; and technical experts, temporarily attached from the departments which had important regulatory roles. Together, they set about the task of giving substance to the OFI idea.

Task Force staff identified three issue areas for immediate attention: organization, budget and administration. /260 In terms of organization, the group needed to:

- Identify major OFI functions and determine manpower resources and specialties required to accomplish them.
- Develop an organizational structure.
- Suggest options for field location and operations.
- Define AAO relationship to FI and name individual AAOs for each ANGTS agency.

As for budget, resources necessary for Task Force operation and agency start-up had to be identified for the rest of Fiscal Year 79. A complete budget was also due for FY 80, accounting for personnel, space, travel and major purchases. Finally, a number of administrative matters, from personnel system development, hiring, payroll system determination to contracting general service support from another agency, needed to be addressed. In doing this, the Task Force, very short of time, tried to utilize aspects of an implementation plan developed for the Federal Emergency Management Agency (FEMA) by OMB. /261

The reorganization plan, as noted earlier, had gone far in solidifying the Federal Inspector's hold over the project and the new OFI. Despite the plan's success in clarifying the OFI's status and responsibilities and strengthening the Federal Inspector's hand, hard questions

remained on the OFI idea, as framed by Reorganization Plan No. 1 of 1979. R.E. Horvath, a RAND Corporation analyst, was engaged by the Department of Energy in late 1978 to examine the ANGTS project and the OFI response. In a subsequent RAND report, he placed several of these issues in high relief. /262 First, Horvath, citing recent Defense Department studies, claimed that cost incentive contracts, governed by IROR-type mechanisms, "do not [generally] affect contractor behavior with respect to cost control control." /263 Contractors, he explained, usually managed either to have certain controllable costs designated "uncontrollable," thus free from mechanism inclusion, or to pad the original project cost estimate, which, once approved, would serve as the standard for measuring project construction performance.

TAPS costs had climbed from $900 million in 1969, when the project was first announced, to $7.9 billion, the final cost estimate in 1977 - more than an 850 percent increase. As Horvath explains:

> Alyeska was unable to set meaningful schedules and [cost] targets because they had no realistic design and cost estimate to work from. For the Alaskan gas pipeline, Northwest is required to submit a design 70 percent complete to the Federal Inspector before beginning construction.... /264

OFI and FERC cost/audit staff, he reasoned, would probably ensure a reliable total project cost before construction, given the design completion requirement, but cost control was another matter. It would not be insured by the IROR mechanism, but only by an OFI cost/audit staff determined to restrain sponsor appeals for "uncontrollable" costs and to prevent "front end" padding of the original project estimate. Effective cost regulation, by Horvath's analysis, was a function of administrative vigilance, not IROR mechanics. The latter might enhance the former, but could not replace it.

Most of Horvath's observations, however, referred to the OFI reorganization and the relations it might create among major players. He framed his organization analysis around three points: field staff control, staff "association" with contractors and the source of staff. /265 Staff dispersion, in the field and among several regional offices, endangered central coordination and command. In many ANGTS-like projects, contract officers and field inspectors had been granted, in Horvath's view, excessive independent authority for redesign approvals and enforcement waivers. Field level staff could become "unduly sympathetic" to the sponsor's and contractor's problems and so familiar with contractor operations and personnel that vigilance would be reduced. This is known as "association": "after some time, [the inspector may begin] to sign off the paperwork without making a real inspection." /266 In project surveillance as extensive (48,000 miles) and often remote (Arctic regions) as the ANGTS, "association" of the inspector with the sponsor's contracting personnel posed a considerable challenge to regulatory integrity.

The Federal Inspector, Horvath wrote, "will need two very specialized skills to help" him perform his tasks: cost and technical expertise. /267 Could the federal government be a satisfactory source of such personnel? While it had a core of auditors and cost analysts, particularly in the Defense Department, it had few specialists in pipeline construction. Private consulting firms were necessary, Horvath believed, to bolster the government's cost audit and engineering capabilities.

A final issue explored by Horvath involved the Federal Inspector's interplay with AAOs. He summarized their formal relations as follows:

> ...the federal agencies retain their authority to grant permits and other authorizations, and retain the right to set terms and conditions of enforcement. However, the enforcement authority is fully transferred from the agencies to the Federal Inspector. [He] has full budget control over all activities pertaining to enforcement, including that of the Authorized Officers and their agency staffs. The enforcement activity will be carried out by [AAOs] and their staffs, also from the agencies, under the supervision of the Federal Inspector. /268

These gears, however, did not completely mesh. The AAO, according to Horvath, was subject to a two-boss dilemma. The Federal Inspector, the AAOs official superior, was appointed largely to expedite ANGTS and would expect his agents to facilitate project completion. The departments which sponsor the AAOs, on the other hand, are almost exclusively concerned with regulation - establishing terms and conditions, issuing permits and enforcing appropriate rules and statutes. An AAO, by his organizational transfer to the OFI, would neither casually abandon his regulatory orientation nor deny his departmental superiors, to whom he would most likely return after his OFI tenure.

It is not difficult to imagine, given this discussion, occasions in which the objectives of project expedition and regulatory rigor might clash. An OFI field inspector, for instance, might recommend a construction stop-work order after several official warnings failed to resolve a fly camp sewage problem. The regulatory department would probably endorse such action although the Federal Inspector, cognizant of costs associated with construction delays, might insist upon a less severe penalty. The AAO, in theory, may be caught in between the Federal Inspector's command and the department's regulatory credo, between an organizational imperative for project expedition and a professional disposition toward a regulatory mission. Horvath found that, under the best circumstances, such dilemmas are often satisfactorally resolved. An astute, sensitive Federal Inspector, joined by a conscientious AAO, will probably settle most disputes reasonably and amicably. Nevertheless, the possibility for divisive conflict did exist.

Nearly a year after the RAND study, the U.S. General Accounting Office (GAO) published its first ANGTS report, "Issues Relating to the Proposed Alaska Highway Gas Pipeline Project," which focused heavily on

financial issues. /269 On January 23, 1979, Schlesinger, responding to inquiries from Congress's Joint Economic Committee, indicated that federal loan guarantees for ANGTS should not be considered out of hand:

> Question: How large would that kind of guarantee have to be, roughly; what is the ballpark....
> Schlesinger: I think that one must look at the pipeline as several pipelines. There would be no need, for example, for [an] American guarantee of the Canadian portion of that pipeline. The southern portion of the pipeline below the Canadian border that goes into Dwight, Illinois, [the East leg] would not be needed to [be] guaranteed because that is easily financeable.
> So, one is dealing only with the component from the North Slope down to the Alaska-Canadian border. That is the sum you mentioned of $2 or $3 billion, which indeed might be in the right ballpark. /270

Schlesinger's remarks concerned the Congress, whose members had, through the entire legislative history of the ANGTS, avoided project financial commitments beyond those for standard regulatory functions. Now, Schlesinger was suggesting construction finance guarantees - another matter entirely. ANGTS financing had not come as easily or quickly as sponsors anticipated, despite the government's efforts to promote the gas pipeline. The GAO was instructed, as it had been several times on the TAPS project, to examine the ANGTS's current status and to reassess federal alternatives.

The two remaining key issues, the GAO study asserted, were gas conditioning costs and stipulations to the right-of-way agreements. /271 As specified in the President's Decision, the producers were responsible for building the $2 billion Prudhoe Bay gas conditioning facility, necessary for Alaskan gas treatment and transmission south. The producers could recover the conditioning plant's costs indirectly, through the sale of gas, but they would do so without the guaranteed payback associated with ratebase regulation. The FERC ruled that the producers would be able to reclaim some of its costs, under provisions of the new NGPA, but the producing companies - EXXON, ARCO and Sohio - were still cautious. They were hesitant to build conditioning facilities for gas they were uncertain to market.

A second issue involved the right-of-way agreements, a compilation of stipulations which conditioned the sponsors' and their contractors' use of federal and state lands during gas drilling, pipeline construction and system operation. The producers and sponsors, GAO claimed, viewed the stipulations as a "first offer," subject to revision through negotiation. They were not inclined to accept the stipulations without subsequent discussion and perhaps, eventual concession. The departments, however, did not see the stipulations as bargaining chips. The stipulations were issued after a standard regulatory process which had encouraged and considered comments by the sponsors and other interested parties.

By this reckoning, once the stipulations were issued, they were not objects of negotiation. The departments, particularly DOI, appeared to resist any sponsor attempt to alter the provisions of the agreement.

The GAO noted that the sponsors, by Spring 1979, appeared much less optimistic regarding project completion than they had during the early certification debates. "The project's sponsors," the GAO reported, "have estimated a one-in-three chance the project will be abandoned in 1979. This estimate is almost three times higher than the 1978 estimate." /272 Three reasons were cited: technical, regulatory-political and economic.

Technical concerns included major design changes, the need for coordinated development and the uncertainty of gas availability. Nearly all TAPS evaluations, including those by the GAO, stressed the imperative of design completion before construction. /273 Incomplete design was identified as a major source of TAPS' engineering problems and cost inflation. Therefore, it was essential that ANGTS sponsors have a comprehensive sense of the whole system before building the pipeline's constituent parts. The sponsors took issue with this perspective. They argued that preconstruction planning without important system design testing, conducted as part of project construction, would necessitate massive design changes later. Only through construction, they believed, would certain problems, critical to design decisions, become apparent. Timing was also a critical issue. The sponsors acknowledged that ANGTS costs could accelerate quickly if the project's various phases were not completed on schedule and within budget. Alaska leg pipeline completion, for example, would be meaningless without the disputed gas conditioning plant. Finally:

> [O]wing to the short Prudhoe Bay reservoir production history and disappointing Alaskan drilling results - no new known reserves as of March 7, 1979 - the sponsors stated that they are still not certain that 2 billion cubic feet a day of Alaskan gas will be available to the project. /274

There were several regulatory-political reasons for reduced ANGTS confidence. First, excessive and regid stipulations were likely to result from the involvement of so many diverse, activist agencies, all with varying degrees of regulatory authority over the project. The OFI concept, of course, was developed to centralize, coordinate and expedite regulation, but its practical success was still uncertain. Second, political demands might be made by governments through which the ANGTS passed. Localities, for example, could insist upon high tax compensations for native claims or large sponsor payments to community impact trusts. Third, government regulatory delays, increased in a large, complex and expensive enterprise, tended to undermine ANGTS prospects. The sponsors sought "regulatory certainty," a concept which would require the OFI and FERC to base all subsequent regulation on prior determinations. In this manner, judgments would be consistent and, largely, predictable.

Economic risks remained, however, the most serious of all. The sponsors stated:

> [M]arketability risks that equity investors must assume are without precedent because of the high cost of delivering the gas to the lower-48 markets and the expectation, supported by the TAPS experience, that there will be future real increases in this cost - increases that could reduce or eliminate the price advantage of natural gas over substitute fuels, notwithstanding rolled-in pricing. /275

ANGTS sponsors, less than 18 months after assuring the President and the Congress that private financing for the ANGTS would be possible, were now singing a very different tune. Significant governmental concessions, perhaps federal fund guarantees, might well be required, the GAO argued, if Alaskan gas was to reach American consumers anytime soon, given the current market structure. Congress, the GAO advised, would be wise to reevaluate ANGTS prospects and ponder project alternatives, including increased conservation, intensified lower 48-state exploration and unconventional domestic resources (oil shale). Congress would pursue these other energy alternatives, but it would not abandon the ANGTS.

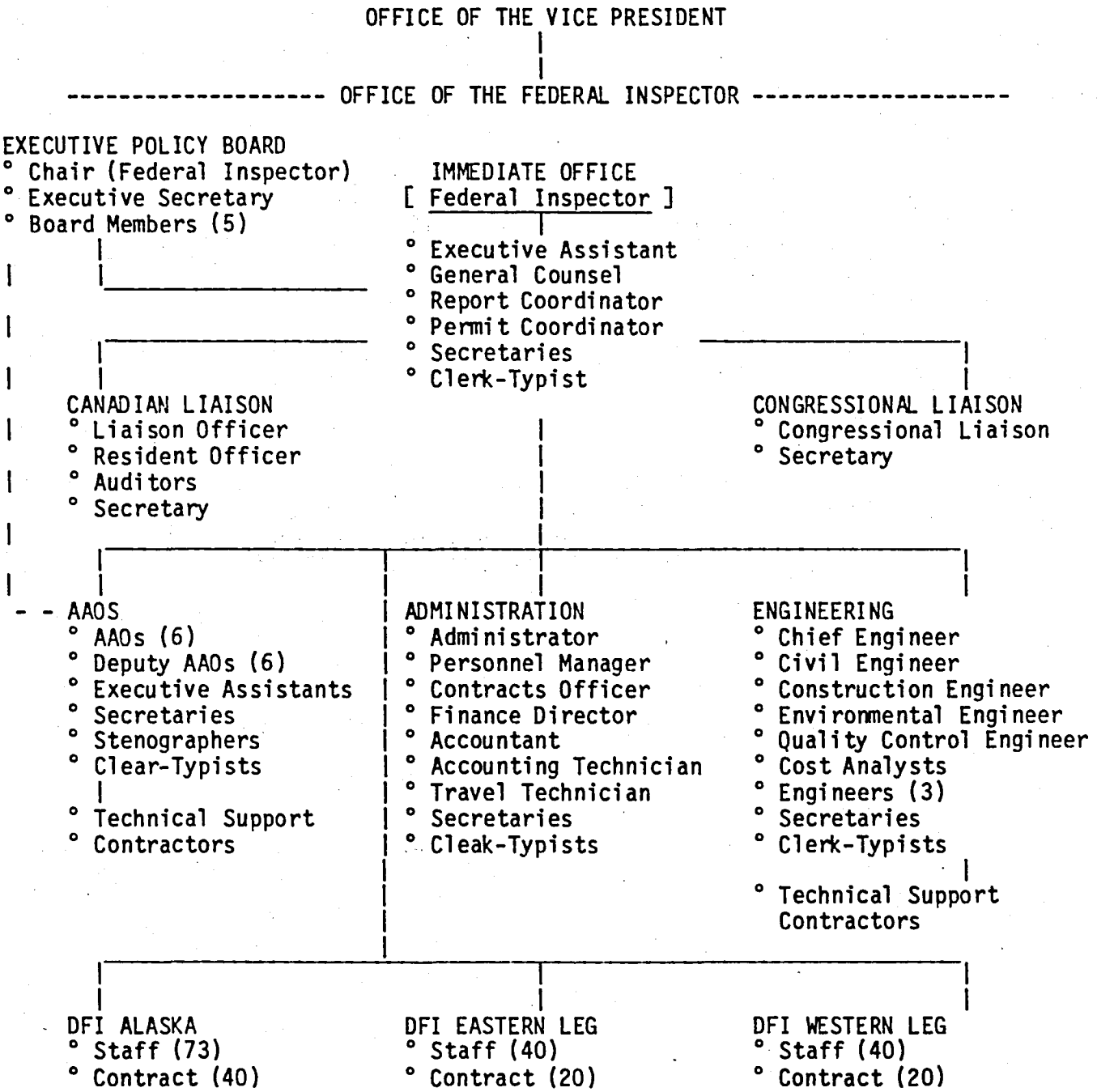
The Task Force set about its OFI organizational design with the Horvath, GAO and a variety of TAPS-related studies in mind. OMB's Jack Donahoe and Billy Cramer developed the Task Force's initial design, in close consultation with Adger, the EPB and Rhett. This first OFI conceptualization emphasized liaison efforts, harnessed AAOs for staff direction and envisioned deputies for each of the three American legs. /276 (See FIGURE 1-12.) The immediate office staff was small, comprised of the Federal Inspector, an executive assistant, general counsel, report and permit coordinators and clerical staff. Two support offices accommodated Canadian and congressional liaisons. The plan included three primary primary staff offices: administration, AAO and engineering. Administration involved standard delegations: personnel, finance, procurement, and automated data processing. Engineering was comprised of a chief engineer, deputies for the relevant specialties (civil, environmental, quality control), several general engineers and contract staff. The six AAOs each had deputies, executive assistants, clerical staff and varying degrees of contract support.

The location of the Federal Inspector's office was a point of prime concern. "The conventional wisdom has been that the FI's office should be located in Alaska," Donahoe wrote. /277

> Such logic overlooks the fact that the FI will also have to manage projects in the northern portion (Northern Border) and western portion (Western Leg) of the lower-48 states. It also ignores the political nature of the FI's job and the fact that he will have to spend considerable time in Washington. The fact is that the FI can delegate essentially all of his technical duties whereas he can delegate none of his political duties and few of his managerial duties. /278

FIGURE 1-12: Original OFI Organization Plan

Developed by Donahoe and Cramer
OMB President's Reorganization Project
Spring 1979



Source: TF Notes

Most OFI responsibilities, Donahoe continued, "can be performed more effectively outside at points outside Alaska," where communications, procurement and travel is much easier. Furthermore, "it will be extremely difficult to attract personnel to Fairbanks, both due to the extreme weather conditions, and the loss they would almost certainly take on real estate (for which the government has no method to compensate the employe)." /279 Finally, "another tenet of the conventional [wisdom] is that the FI... should be located at the same place as the project sponsor's construction headquarters." As Donahoe explains:

> [We must recognize that the FI's function is not to manage the project, but to monitor it, and to insure that the sponsor has a good management control system in place at the time construction is initiated.] /280

All things considered, "the most logical location for the FI's [Federal Inspector's] office would appear to be Washington, D.C., where most of the FI's political duties will be performed, or Seattle, Washington, which is centrally located to all the areas where the FI will have to travel." /281

The field offices would be home for 153 of the plan's projected 234 OFI positions, along with at least 80 contract personnel. Each field office would be administered by a deputy federal inspector (DFI), whose principal function would be to enforce the terms and conditions set by the government in the Decision, reorganization plan and various agreements between the departments and the sponsors. Each construction spread would be marshalled by a spread team, a group of monitoring specialists (general engineer, hydrologist, environmental scientist(s), archeologist, auditor, if necessary, and other required support personnel) who would report to the appropriate DFI.

Project financing, unfortunately, would not come together as smoothly as the OFI's preliminary organizational design. Most likely, the provisions which governed it in the Decision would have to be altered if the situation was to improve. The financing issue, in large part, was predicated by state of Alaska and Prudhoe Bay producer involvement. Alaska, of course, was a major project beneficiary as owner of 12.5 percent of all Prudhoe Bay gas and the employment benefits which accrued from project construction. /282 The state could accrue as much as $7.5 billion on royalties from gas sales and $50 million each year in property taxes.

In 1978, NWA asked for state support of the ANGTS in the form of $1 billion in tax-exempt revenue bonds and $500 in convertible debentures (interest-bearing securities that are exchangeable for preferred equity after construction is complete). The state studied the requrst. Later that year, it established the Alaska Gas Pipeline Financing Authority (AGPFA) to attend bond issuance, which was suspended until necessary amendments were enacted to properly operationalized the AGPFA. The

AGPFA debate created considerable interest among Alaskan state lawmakers, many who began to recommend in-state hiring quotas and comprehensive financial disclosure by the sponsors as conditions for the amendments.

In August 1979, after state lawmakers failed to approve either the AGPFA amendments or any form of equity participation, the sponsors withdrew their request. Gov. Jay Hammond, despite repeated appeals, had been unable to convince the legislature to become a project lender before the sponsor's portfolio was complete or formal proposals were made to other prospective financiers. Apparently, NWA had not cultivated leading Alaskan development groups as assidiously as it might have and made little effort to encourage Congress to waive IRS provisions which blocked federal tax-exempt status. /283 Nevertheless, informal discussions between the sponsors and the state continued.

The Prudhoe Bay producers, Exxon, ARCO and Sohio, stood to earn $50 billion (in 1979 dollars) from the sale of their Alaskan natural gas. This monetary return, associated with their immense financial assets, made them an obvious source of project funding. President Jimmy Carter, in his Decision, had prohibited equity ownership by the producers while encouraging their participation in debt financing - a strategy which, whatever its antitrust value, tended to increase risks and endanger returns for the three companies. The producers estimated that their pre-delivery expenses could rise as high as $6 billion in field development and gas conditioning plant construction. It was an expense they were reluctant to incur without a guarantee that the ANGTS would be built or, if it faltered, that they would be allowed to somehow recover their investment.

In July 1979, after months of producer inaction, President Carter took the initiative. He publicly admonished the producers for their intransigence and instructed Schlesinger, his Energy secretary, to negotiate a financing solution. /284 The long process would begin.

The stage, 32 months after the ANGTA, was finally set. On May 31, 1979, the Congress finally consented to Reorganization Plan No. 1 of 1979, which fashioned the OFI as an independent agency, gave substance to the legislative mandate granted by the ANGTA and the President's Decision, and created a single, authoritative agent - the Federal Inspector - as the federal government's project superintendent. Within weeks, President Carter issued Executive Order 12142, which constituted the EPB as an advisory board to the Federal Inspector and authorized the new agency to open on or after July 1, 1979. Also in late Spring, Jack Rhett finally agreed to serve the nation's first Federal Inspector, after a personal appeal from Vice President Mondale and his own efforts to strengthen the Federal Inspector's powers came to pass.

At Rhett's confirmation hearing, on June 22, 1979, Sen. Henry M. Jackson (D-Wash.), chairman of the Senate Committee on Energy and Natural Resources and the only member present at the hearing, observed:

Since the President selected Northwest Pipeline's proposed route, and the Congress approved his decision, the project has suffered from a lack of leadership at the Federal level. Various Federal officials, including Vice President Mondale and FERC Vice Chairman [Don] Smith, have devoted hundreds of hours to the project. But they have not had the day-to-day responsibility for overseeing the project. That responsibility is a big part of the Federal Inspector's job.

I look forward to hearing from Mr. Rhett today. But I will also look forward to hearing from him in the days and weeks to come. Keeping the Congress informed about the pipeline's progress - or indeed, the lack of progress - will be a major part of his job.... /285

I must say that you are being nominated for, I think, one of the most important construction tasks ever undertaken. Certainly in terms of dollars, it is the largest single construction project in the world.... I would only hope that you will be tough and call them as you see them, and we will back you up. The example on the Alaska oil pipeline is a reminder I think for all of us that we can do it better.... /286