STATEMENT OF JOHN T. RHETT
FEDERAL INSPECTOR
OFFICE OF THE FEDERAL INSPECTOR
FOR THE ALASKA NATURAL GAS TRANSPORTATION SYSTEM

Before the
Subcommittee on Energy Regulation

Senate Energy and Natural Resources Committee
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Mr. Chairman and Members of the Committee, I appreciate the opportunity to appear before you today to discuss the Alaska Natural Gas Transportation System (ANGTS) and the role the Office of the Federal Inspector (OFI) has had in overseeing this extraordinary project to date.

Let me begin by giving you a short history of the project itself and the origins of the OFI. I will then give you a status report on the project from a technical and regulatory viewpoint.

The ANGTS project was conceived following discovery, in 1968, of a huge reservoir of oil and natural gas at Prudhoe Bay on the North Slope of Alaska. The proven reserves of 9.6 barrels of oil and 26 trillion cubic feet of gas stimulated interest in moving the vast supplies to markets in the lower 48 States. The oil eventually began flowing, in June 1977, through the Trans-Alaskan Pipeline System (TAPS), which was built to transport the oil from the North Slope to the port of Valdez where the oil could be shipped by tanker. The natural gas is currently being reinjected to maintain field pressure and maximize oil recovery.

Domestic gas shortages, coupled with sharp oil price increases in the mid-1970s, encouraged plans for an Alaskan gas pipeline system. Between 1974 and 1976 three separate project groups applied to the Federal Power Commission (FPC) for certification to transport Alaskan gas. The Arctic Gas consortium proposed to build a pipeline east from Prudhoe Bay across the Arctic National Wildlife Range, down Canada's Mackenzie River Valley to Alberta where separate legs would deliver the gas to the U.S. Midwest and West Coast. The El Paso group wanted to construct a gas line along the oil line corridor to the Gulf of Alaska, where the gas would be liquified and shipped to California. Finally, the Alcan Pipeline Company submitted what was to become the approved system.

Because the sizeable Prudhoe reserves were viewed as critical to the Nation's total energy program, Congress passed the Alaska Natural Gas Transportation Act (ANGTA) of 1976, while the FPC was holding hearings on the three proposals. The ANGTA provided for the participation of the President and the Congress in the selection process and for the means to expedite construction and initial operation of the approved system. Pursuant to the requirements

of the ANGTA, President Carter selected the Alcan proposal, the 4,800-mile joint U.S.- Canadian overland pipeline that could eventually deliver up to 2.4 billion cubic feet per day to markets in the lower 48. The Alcan project was found to be the most economically and environmentally acceptable proposal by the United States and Canada, whose National Energy Board had issued a decision to that effect in June 1977.

As proposed by Alcan, the pipeline would be of varying diameters and the first buried, chilled gas line ever built. The system route was based on paralleling the TAPS line from Prudhoe to Delta Junction, just southeast of Fairbanks. At Delta Junction the pipeline would turn southeast and generally follow the Alaska Highway across the Yukon Territory, British Columbia, and Alberta to James River Station. At James River, the system would divide into two legs. The Western Leg would cross British Columbia and then continue south through Idaho, Washington, and Oregon before terminating near Antioch, California. The Eastern Leg would turn east to cross Saskatchewan and the States of Montana, North Dakota, South Dakota, Minnesota, and Iowa, before terminating near Chicago, Illinois.

In 1977, completion of the entire system was targeted for January 1, 1983.

President Carter's message to Congress on the selection of the Alcan proposal consisted of a decision and a report (Decision and Report to Congress on the Alaska Natural Gas Transportation System). The decision designated the Alcan group as sponsors; described the 4,800-mile route; identified provisions of law requiring waiver; set forth the terms and conditions for enforcement; and included text of the U.S.-Canadian agreement on tariffs, cost controls and pipe procurement which had been approved by the Senate in October 1977. The Congress approved the President's selection on November 2, 1977.

The project was set up such that each Leg of the ANGTS would be designed, financed, constructed, owned, and operated by a different group of private natural gas transmission companies. The Alaskan segment of the system was sponsored by the Alaskan Northwest Natural Gas Transportation Company, a consortium of 10 pipeline companies. Northwest Alaskan Pipeline Company (formerly Alcan) is the consortium's operating partner. At a later date, the North Slope gas producers would join this effort through a cooperative agreement to share the engineering costs of the Alaskan Leg.

A consortium of five companies formed the Northern Border Pipeline Company to construct the Eastern Leg, of which Northern Plains Natural Gas Company was and continues to be the operating partner. Pacific Gas Transmission Company and its parent company, Pacific Gas and Electric Company, sponsored the Western Leg. The principal sponsor of the Canadian portion was Foothills Pipe Lines Ltd.

In the late 1970's it became evident that Canada had a growing exportable surplus of gas reserves in Alberta. As a result, the Alcan plan was modified to be constructed in two stages. The first stage, referred to as "prebuild" construction would entail building portions of the Eastern and Western Legs to transport Albertan gas to the lower 48. With this prebuild system Albertan gas would begin flowing several years before the North Slope gas came on line, thus providing cash flow and other immediate benefits to the participants and facilitating the financing and construction of the overall system.

The second stage of the system, known as Phase II construction, would be the completion of the Alaskan, northern Canadian portions, and lower 48 segments necessary to deliver the Alaskan natural gas to the continental United States. A gas conditioning plant, needed to remove impurities from the gas prior to shipment through the pipeline was also scheduled to be built during the second phase of construction. The conditioning plant was originally not a legal component of the ANGTS project.

In December 1977, the Federal Energy Regulatory Commission (FERC) issued conditional certification to the project sponsors to build the ANGTS, thereby enabling the companies to begin pipeline design and planning.

While design work was progressing in 1978, the FERC proposed, in May, an incentive rate of return structure, as required by the President's Decision, and the Congress adopted the President's preferred wellhead pricing policy for Alaskan production in November. Under the National Gas Policy Act (NGPA), the wellhead prices of natural gas produced from the Prudhoe Bay Unit system would be the equivalent of $1.45 per million BTUs in 1977 escalated by inflation. The NGPA also allowed for "rolled-in" pricing on Alaskan gas, a method by which comparatively high-priced Alaskan gas could be mixed for sale with less expensive domestic gas. Due to the lengthy debate in Congress on the NGPA and other delays, the Northwest Alaskan Pipeline Company revised the schedule in 1978 from a system completion date of January 1, 1983 to November 1, 1984.

The first half of 1979 was marked by a series of regulatory filings and actions to allow the pipeline sponsors to proceed with their planning and to begin construction on schedule. In January, the Northern Border filed for FERC approval to build the Eastern Leg prebuild segment at an estimated cost of $1.4 billion. In April, the FERC issued a notice of proposed rulemaking attaching values to each incentive rate of return component and it also ordered expedited hearings on the prebuild portion of the system.

In July 1979, the Office of the Federal Inspector for the Alaska Natural Transportation System officially began operations. This new, independent agency was created pursuant to the ANGTA, which authorized

the President to select a Federal Inspector to be responsible for coordinating all Federal activities related to the pipeline project, and for assuring timely, efficient, and environmentally sound construction. That Congress specifically addressed the construction of an Alaskan gas pipeline was generally interpreted as a reaction to the schedule delays and cost overruns associated with the building of the TAPS. The problems experienced by the private companies involved in TAPS were, unfortunately, exacerbated by the lack of a clearly defined Federal role. The President's Decision directed that a limited and temporary restructuring of governmental enforcement authority over the ANGTS be implemented through a reorganization plan to vest such responsibilities with the OFI for the duration of the ANGTS project. Through the enactment of Reorganization Plan Number 1 of 1979, the Federal Inspector was given authority to schedule and expedite Federal agencies' permits, to review and approve the design and final cost estimate, and enforce all Federal permits and other authorizations. As per Executive Order No. 12142, the Reorganization Plan became effective on July 1, 1979, to remain in effect until 1 year after initial operation of the completed pipeline system.

Key regulatory actions occurred throughout the latter half of 1979 as the pipeline companies sponsoring the ANGTS continued with engineering design and construction planning. In June 1979, the Department of the Interior (DOI) conditionally authorized the Right-of-Way grant for construction across Federal lands in Alaska. In August, the FERC approved a 48-inch pipe size and 1260 psig pressure for the Alaskan segment, and in September, issued its final, unappealable incentive rate of return and tariff order.

Despite the progress made toward satisfying regulatory requirements, critical governmental actions, such as the determination of gas conditioning plant ownership, were not resolved as quickly as had been expected. Furthermore, the Northwest Alaskan Pipeline Company was beginning to run into difficulties in securing the massive financing required to build the Alaskan segment of the system. As a result, in late 1979, the system completion schedule was again revised; the November 1984 date was slipped one year to November 1985.

In 1980 the focus of project activity was on clearing the way for the start of construction on the prebuild segments in Canada and the lower 48 States, the completion of which had been targeted for late 1981. In January, the FERC issued the certificate for the Western Leg prebuild, subject to rehearing, and later in the same month, upgraded the diameter for the Western Leg pipe from 36 to 42 inches. On April 28, 1980, the FERC certified Eastern Leg prebuild construction at an estimated cost of $1.2 billion. While the United States had been issuing regulatory approvals to begin the prebuild, the Canadian regulatory authorities would not approve their portion of the prebuild system until assurances were received from the U.S. Government as to the financeability and timely completion of the full system in the United States. In July 1980, following written assurances from President Carter and

a Joint Resolution of Congress (S.J. 104), the Canadians approved their portion of the prebuild system. Phase I construction began on the Canadian section in August 1980 under the auspices of Foothills Pipe Lines Ltd., and the new Canadian regulatory agency, the Northern Pipeline Agency (NPA), counterpart of the OFI.

As prebuild construction issues were being resolved, work on the regulatory approvals, financing, and complex engineering needed for the Alaskan segment continued throughout the latter half of 1980. In June, a cooperative agreement was signed by the pipeline sponsors and the North Slope gas producers for financing $500 million in design and engineering work. A statement of intent to develop a financing plan for construction was also signed. In July, Northwest Alaskan filed a partial application for a final certificate with the FERC and applied to the DOI for a Right-of-Way permit. Shortly thereafter, the Northwest Pipeline Corporation, in September 1980, began construction on its Western Delivery System, 350 miles and 30-inch looping from Stanfield, Oregon to Burley, Idaho, to take additional Albertan gas from the ANGTS Western Leg to markets in southern California. The Western Delivery System was related to, but not part of, the ANGTS project; construction on it was completed in May 1981.

During 1980 the OFI increased its staff and opened field offices in Alaska, California, and Nebraska to accommodate the expansion of project activity and to prepare for on-site construction on the prebuild line. The Agency was actively involved in coordinating permit issuances to expedite construction planning and operations; reviewing the sponsors' cost estimates in conjunction with the FERC; leading an arctic engineering board to assess and resolve difficult construction issues, such as frost heave; analyzing the Alaskan Right-of-Way application; monitoring field work on borehole drillings along the pipeline corridor in Alaska; and providing technical advice on major pipe and related procurements. The OFI also developed solid working relationships with other Federal agencies, State and local groups, and the Government of Canada so that all concerns were addressed early and adequately, thereby keeping construction on an expedited track.

By the end of 1980 several key project milestones were met. On November 29, 1980, DOI issued the Right-of-Way grant to the Northwest Alaskan Pipeline Company, following Congressional approval on the 19th of November. On December 8, 1980 the OFI issued a Notice to Proceed to the Pacific Gas Transmission Company giving the company the green light to proceed with Western Leg prebuild construction, which began that same day in Idaho. Two days later, on December 10, 1980, a group of 28 U.S. and Canadian banks signed agreements with the Northern Border Pipeline Company to provide a loan of $1.055 billion for construction of the first phase of the Eastern Leg. A consortium of nine U.S. commercial banks led by Bankers Trust Company had already agreed to loan up to $160 million to Pacific Gas Transmission Company for prebuild construction on the Western Leg; Pacific Gas financed the remainder of the cost through the sale of common stock.

Construction progressed smoothly on the Western Leg prebuild, which was completed, aside from some minor compressor modifications and revegetation, at the end of September 1981. Gas from Canada began flowing through the Western Leg in October 1981. The segment had been constructed on schedule and under budget.

Construction on the Eastern Leg prebuild began in April 1981, after a series of events had transpired to extend the target completion date from late 1981 to the fall of 1982. A major reason for the delay was a lawsuit filed by the OFI and the FERC against the Public Service Commission of the State of North Dakota, which had, on September 12, 1980, denied the Eastern Leg sponsors a permit to cross the State within the corridor previously approved by the Federal Government. On April 2, 1981 the U.S. District Court for North Dakota granted a motion for summary judgment in favor of the OFI and the FERC, thereby allowing work to proceed on the segment. The Notice to Proceed enabling construction to begin in May on si spreads in Montana, South Dakota, Minnesota, and Iowa was issued by the OFI on April 18, 1981. By September 1981, 58% of the Eastern Leg had been constructed.

Continued delays in obtaining financing for the Alaskan segment forced another schedule slippage such that the full system completion date was changed, in June 1981, from the winter of 1985-86 to 1986-87. Financing, which had to be in place by mid-1981 to permit the sponsor to place orders for major materials and equipment to meet the 1985-86 target date, was still eluding the sponsors. Because the risks involved in Alaskan construction translated into significantly higher costs than those for the other, more routine segments of the system, it was taking longer than anticipated to secure financing for the Alaskan Leg. Compounding the problem was the provision of law prohibiting the producers of Alaskan gas (Exxon, Arco, and Sohio) from having equity in the pipeline, effectively cutting off a major source of capital investment.

In the meantime, the pipeline consortium and the major gas producers reached agreement on the need for waivers of law that would permit equity participation by the producers in financing the Alaskan Leg. Following up on this agreement, John McMillian, Chairman of Northwest Alaskan Pipeline Company, sent a letter to President Reagan in June 1981, requesting consideration of a series of waivers of law to enable private financing. Later, to facilitate private financing and expeditious project completion, President Reagan invoked the provision of ANGTA which permitted waiving laws found to be inhibiting progress on the ANGTS.

On October 15, 1981, President Reagan transmitted a waiver proposal to Congress which contained the following key requests:

- to allow the producers to participate in the ownership of the Alaskan segment, subject to FERC approval;

- to include the as conditioning plant as part of the approved transportation system to be certificated by the FERC, without the Incentive Rate of Return requirements;

- to remove the evidenciary hearing requirement from the FERC process, leaving the use of such hearings to the FERC's discretion;

- to assure that, once approved by the FERC, the charges for actual operation and maintenance, actual current taxes, and amounts to service debt (minimum bill) of the ANGTS tariff, or recovery of those charges by the purchasers of Alaskan gas, could not be changed by a subsequent FERC decision;

- to permit the Canadian sponsors to recover the full cost-of-service upon completion of the Canadian portion, but not before the operation date determined by the FERC; and

- to permit the Alaskan sponsors to recover the minimum bill charges upon completion of either the Alaskan Leg or the gas conditioning plant, but not before a date certain to be determined by the FERC during the final certificate processing.

After the appropriate committees considered the waiver request, Congress approved on December 10, 1981, via Joint Resolution, all the amendments proposed by President Reagan. Approval of the waivers provided a regulatory framework permitting the sponsors to pursue private financing with greater chance of success.

Most of the OFI's efforts in 1981 were geared to oversight of lower 48 construction, and review of engineering design and environmental plans for the Alaskan Leg. Both the Omaha and San Francisco field offices established smaller construction offices along the pipeline route to ensure adequate coordination and oversight of the sponsors' activities. The thoroughness and responsiveness of the lower 48 field effort helped to assure steady progress on prebuild construction, and speedy resolution of the few problems that arose. As a result, the Western Leg was built on time and slightly under budget.

The OFI engineering and environmental review programs assisted in technical matters concerning the prebuild system, but the focus of their efforts was on Alaskan Leg design review and related arctic construction issues. These staffs worked closely with the sponsor in the development of design criteria manuals and schedules for review of engineering and environmental design packages. The results of the frost heave tests and Atigun Pass borehole drillings were analyzed with the expectation of

developing design strategies to minimize pipe displacement in the frozen soil and structural problems in the narrow Atigun Pass. The environmental staff completed its review of the sponsor's draft plans on clearing, restoration, wetlands construction, and quality assurance, and continued its review of the sponsor's studies on endangered species and fisheries.

In conjunction with the Alaskan design review effort, the OFI Alaska field office staffs performed on-site monitoring of the sponsor's field data gathering and survey programs. The Alaska offices monitored the sponsor's drilling program, which covered 5,000 boreholes. As part of its continuing responsibility to expedite permitting, the Alaska office also coordinated the issuance of 40 Temporary Use Permits through the "one-window" process.

The major project activities that occurred during the first half of 1982 included continued construction on the Eastern Leg prebuild, design of the Alaskan Leg segment, and negotiations on financing.

Despite passage of the waivers, Alaskan Leg financing was still not within immediate reach. Due to the short term excess world energy supplies, depressed crude oil prices, and uncertainties in world financial markets, the sponsors of the Alaskan Leg concluded in the spring of 1982 that they would need more time to secure the financing than the 1986-87 completion date allowed. On April 30, 1982, the sponsors revised the construction schedule projecting a system completion date of 1989-90, based on obtaining financing by mid-1984. Alaskan construction was postponed two years in the hopes that general economic and specific energy market conditions would settle enough over time to allow financing of the gas pipeline project by 1984.

Not only did Northwest Alaskan revise its construction schedules, but it also quickly and substantially reduced its staffing and contract support shortly after the April 30th announcement. At that time, its staffing was cut about 48%, down to 138 employees, and its contractor support by approximately 90%, down to a total of 50 employees. In spite of the reductions, the sponsors continued to work on the design criteria packages for both the pipeline and the gas conditioning plant.

At the end of August 1982, construction of the Eastern Leg prebuild was essentially completed, aside from some minor restoration work. Gas from Canada began flowing through the Eastern Leg on September 1, 1982. Despite some welding problems, the segment was completed under budget and on time.

With the completion of the Eastern Leg, 1,512 miles, or 32% of the total ANGTS system had been constructed. Of that total, 983 miles were in the U.S. and 529 in Canada. The prebuild system was now the longest, most expensive gas pipeline ever built at one time in the lower 48. That both

prebuild segments were completed within budget and basically on schedule is due in part to the expeditious oversight of the OFI field inspection staff, along with the highly cooperative efforts of the sponsor companies and other Federal agencies.

Because of the slippage in the construction schedule to a 1989-90 completion date, the OFI began to cut back its staffing and workload plans to reflect the hiatus in major project activity between the first and second phases of ANGTS construction. All along, the OFI had relied upon the workload estimates and construction schedules provided by the sponsors to develop its own planning. When Northwest Alaskan immediately reduced its operations, the OFI quickly reassessed its resource needs and began planning to cut the staff from a peak of approximately 159 total employees to 101 by the end of FY 1982. Employment reductions were planned in phases to accommodate any possible sudden upturns in project activity and to retain enough expertise to complete work on the prebuild and other vital design, environmental and cost analysis work that remained.

As 1982 progressed and other project developments were taken into consideration, Northwest Alaskan started to refine workload projections and short-range schedules for 1983, such that further reductions were indicated. The OFI cut back its funding and staffing accordingly and, in November 1982, projected that its budget could be reduced to approximately $6 million and its staff to approximately 40 employees by the end of FY 1983. The timing of the OFI's reductions were based on the premise that most of the design criteria review, audit, and permitting work on the last items submitted by Northwest Alaskan could be completed by mid-1983. After that and the conclusion of post-construction work on the Eastern Leg prebuild system, OFI work would be limited to some technical analyses and updates; review of the sponsor's environmental and technical plans; advance planning for Phase II; liaison with the sponsor, State and local groups, and the Canadians; and essential administrative and management functions to keep the agency operating smoothly.

I would now like to discuss the latest developments in the pipeline project and the current outlook for its eventual completion.

Northwest Alaskan, after its spring 1982 announcement on the slippage to a 1989-90 completion date, has steadily reduced its staff, although it has continued to pursue a variety of biological, physical and civil projects along the pipeline corridor, all under OFI review. As for the OFI's total staff, it dropped to a total of 26 employees by September 30, 1983. The Omaha field office, operations center for Eastern Leg oversight, closed in April 1983. Although small staffs remain in Anchorage and Irvine, where the engineering staff is located, most of the OFI's personnel are located in Washington, D.C. Staff continues to complete permitting, design review, cost auditing and enforcement responsibilities, while monitoring a host of sponsor technical studies such as on frost heave, and removal of carbon dioxide from the gas stream. The OFI recently received its FY 1984 appropriation of $2,963,000, which is based on a workforce of approximately 30 positions.

On May 9, 1983, Phase I construction in Canada was completed by Foothills, the Canadian sponsor consortium. Afterward, Foothills cut its staff and the NPA followed suit, trimming its roster to 28 full-time equivalent positions by layoffs and temporary reassignments. At this time, the NPA plans to reduce its staff to the equivalent of 15 employees by the spring of 1984.

Operations on the prebuild segments have continued to run smoothly, although, because of marketing problems, gas flows now represent only about 40 percent of the volumes available for export under existing contracts. Northwest Alaskan Pipeline Company has just negotiated interim purchase agreements with Pan Alberta, reducing its minimum take obligation through October 1984 to 40 percent of contracted capacity. Additional efforts are underway to lower the delivered cost of the Phase I gas to improve its marketability.

As mentioned previously, the latest announced schedule still calls for system completion in late 1989. While it is still theoretically possible to maintain that schedule, the sponsors' ability to make the necessary commitments for the procurement of equipment and materials depends on the progress that is made toward obtaining the necessary gas sales contracts and financing. Little progress has been made in this area due to current conditions in the energy markets.

At the last partnership meeting, held in October 1983, the partnership authorized expenditures for the fourth quarter of 1983. At this time, Northwest Alaskan has about 50 employees, including contractor personnel; they plan to maintain this level during the fourth quarter. The OFI's authorized strength is now 30 employees, which represents our core workforce; however, because of unanticipated departures, we currently have only 26 employees. We are exploring ways to fill the employment gaps to be sure there will be no sacrifice in the accomplishment of our critical functions.

On September 20, 1983, Northwest Energy Company, parent of Northwest Alaskan Pipeline Company, and the Williams Companies announced the execution of a merger agreement under which Williams Companies would acquire, for cash, all the outstanding shares of common stock of Northwest Energy. Subsequently, John McMillian was replaced as Chairman of Northwest Energy by Joseph H. Williams; Vernon T. Jones, who will continue as an Executive Vice President and Director of Williams Companies was named President and Chief Executive Officer of Northwest, as well as the principal executive of Northwest Alaskan Pipeline Company.

I have been informed by Mr. Jones in writing that Northwest Energy Company and the Williams Companies will actively support and provide leadership to the ANGTS project, and that no significant changes in Northwest's stewardship of the project are planned. Northwest Alaskan is expected to continue as operator for the sponsoring partnership and the Design and

Engineering Board. Mr. Jones also stated that the project has been brought to a relatively advanced stage of planning so that it could be implemented without significant delay when economic conditions are appropriate.

Much has been accomplished to assure that the Alaskan Leg can move forward at the appropriate time:

- The sponsors have revised and submitted 29 of 31 sections of the pipeline Design Criteria Manual to the OFI. The OFI has reviewed and approved 28 of them. The remaining three sections are expected to be approved by the end of 1984, including the final approval of frost heave methodology.

- Ten of 25 environmental and construction procedure plans required by the DOI Right-of-Way grant have been given final approval; 10 more are being prepared, revised or are under review, and are expected to be completed in 1984. Five have been deferred until remobilization.

- In early June 1983, the sponsors submitted their proposed approach for the prediction and mitigation of frost heave to OFI for review. The OFI has reviewed the submission, assisted by the Cold Regions Engineering Technical Committee, and, in September, conditionally approved the approach, subject to certain additional testing.

- In early July 1983, the sponsors submitted an analysis of a new process and design for the Alaska Gas Conditioning Facility. In September, OFI approved the use of the new process and approved the proposed design for procurement and further detailed design work. The new design will reduce the cost of the conditioning facilities by about 25 percent, or $1 billion, and also eliminates the need for 1 of the 3 previously planned sealifts.

- The FERC has issued orders on the Certification Cost Estimate and Shipper Tracking, thus completing its work on all pending issues related to the Alaskan Leg, except for the conditioning plant cost estimate which has been deferred at the sponsor's request. The DOI Right-of-Way grant has also been issued.

We believe that construction of the second phase of the ANGTS system could begin about 2 years after an order to remobilize. The key steps necessary to a remobilization are:

1. Rehiring of a project team.

2. Completion of frost heave work, field investigations, Design Criteria review, and the engineering "bridge" needed between the Design Criteria and the Final Design effort.

3. Completion of the Final (70 percent) Design work.

4. Submission of gas sales contracts, financing plans and marketability studies to FERC, and receipt of the Final Certificate of Public Convenience and Necessity.

5. Approval of a Right-of-Way grant from the State of Alaska.

In summary, all major regulatory work has been done except the final FERC certification, which will require financing plans, gas contracts, marketability studies, and a Right-of-Way grant by the State of Alaska. The basic engineering is almost complete to begin the Final Design. The solution to the frost heave problem is close at hand, and the sponsors have a good program to complete this basic engineering work.

The ANGTS project has thus reached the point where it can proceed expeditiously to construction. Plans have been developed to the point where costs should be well controlled and the project well engineered.

Mr. Chairman, that concludes my prepared statement. I will be happy to answer any questions you may have.

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MARKETING ALTERNATIVES FOR ALASKA NORTH SLOPE NATURAL GAS

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY REGULATION

OF THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

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