

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 8672

1017 SCOMM 28: JOINT GAS PIPELINE COMMITTEE, 1981-82

Memo to Mark Wittow
November 12, 1980
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Mr. Carl Spaetzler, a private consultant to Alaska Northwest, discussed his calculations for Alaska Northwest's proposed center point of 1.292. The proposed CCE of \$7,900,000,000 includes certain known contingencies. Mr. Spaetzler explained that the 1.292 center point value was not a provision to cover known contingencies, but to cover the inevitable unknown factors which would increase the actual cost of the pipeline. He explained how his firm used a "Monte Carlo computer simulation" to develop a "composite probability distribution for the entire project cost", which derived the center point value. His theory for calculation of the center point is based on his experience that most, if not all, cost estimates for previous large projects (which included dollars for known contingencies) were below actual cost of construction because of the effect of unknown and unforeseeable events.

Alaska Northwest expects that the Design Board will issue a final design as a supplement to the application in November or December of 1980, but this date appears to be optimistic. The Office of the Federal Inspector, not FERC, will have final authority over the design of the pipeline constructed by Alaska Northwest. Alaska Northwest anticipates that the Commission will issue a final certificate order in March of 1981 which will delegate to the Office of the Federal Inspector the authority over the final design of the pipeline to be constructed by Alaska Northwest. The March, 1981 date, promised by FERC Chairman Charles Curtis, may be optimistic since Northwest's financial plan may not be submitted until early 1981. Mr. Adger stated that the technical conferences were not intended to resolve all design issues, and that the Office of Federal Inspector would ultimately resolve many design issues during construction. Adger stated that the technical conferences were to determine only the certificate cost estimate, and how certain changes in the final design would affect the cost estimate. The technical conferences would consider only the cost effects of major design changes. The Commission's staff complained that it had inadequate cost data because Alaska Northwest had admittedly considered and rejected some design alternatives without first preparing full cost estimates.

On October 9, 1980 the conference continued discussion of certain design alternatives (which Alaska Northwest argued were unlikely) and discussions of ambient air temperatures. During a break in the conference Mr. Cuba Wadlington of Alaska Northwest talked about the financing plan and transportation of natural gas liquids. Mr. Wadlington stated that financing would be obtained from conventional lending institutions (banks, insurance companies, etc.) plus some equity participation by North Slope Producers.

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Mr. Wadlington reiterated his confidence that such legislation could be obtained easily. He admitted that even if a final FERC order is not obtained by March of 1981, Alaska Northwest would nevertheless proceed with the application (Northwest had once threatened to abandon the project if approval could not be garnered by that date). He also stated that the Design Board and Exxon are considering possible transportation of some natural gas liquids in the proposed Alaska Gas Pipeline. Darrell Mackay, Vice-President of Regulatory and Governmental Affairs at Northwest, subsequently informed us that the issue of transportation of natural gas liquids would depend upon the final design of the pipeline which is now being prepared by the Design Board. At present it appears that at least some of the natural gas liquids would not be transported in the pipeline, but would be used as fuel to operate the sales gas conditioning facility and other facilities at Prudhoe Bay.

The next technical conference in Washington, D.C. was held October 16, 1980. This conference lasted about five hours and Mr. Spaetzler gave an extended explanation of his calculation of the proposed center point of 1.292. A final technical conference was scheduled for October 28, 1980 in Washington, D.C. to discuss center point, possible design changes, project directorate, and remaining design issues. However, these subjects were covered at a subsequent conference in Irvine, California and the October 28 D.C. conference was cancelled.

Numerous technical conferences have been held at Fluor Corporation's headquarters in Irvine, California since August, 1980. We have not attended any of these conferences, but from conversations with the Commission's Staff and other parties, we understand that these conferences have discussed primarily the issues of design alternatives and cost estimates, including the following specific issues: compressor and metering facilities, operation and maintenance facilities, temporary facilities and services, communications and supervisory systems, frost heave problems and mitigation techniques, and pipeline installation productivity (i.e., the "lay rate").

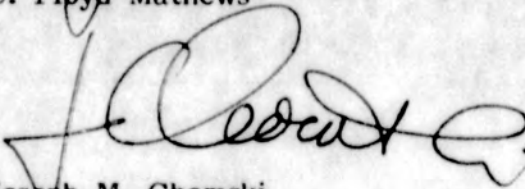
The next technical conference is scheduled for November 10-21, 1980 at Fluor Corporation Headquarters in Irvine, California. This eleven-day conference will discuss the following issues: project directorate, center point and contingency and finance charges, (including the effect of normal contingency of the alternative lay rate discussed at the October 22, 1980 conference), cost estimate changes due to realignment of the gas

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pipeline, Atigun Pass alternatives, embankment versus trench modes studies, and snow pad studies. After the November 10-21 technical conference, there possibly may be additional technical conferences. Alternatively the Alaskan Delegate Mr. Adger may issue a second and final report to the Commission. After receiving the Alaskan Delegate's final report the Commission will then issue notice and request written comments from the public regarding a proposed certificate order.



C. Floyd Mathews



Joseph M. Chomski

CFM:skp

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April 9, 1981

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*ADMITTED IN D.C.

The Honorable Terry Gardiner
House of Representatives - State of Alaska
Alaska Legislature
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State Capitol
Juneau, Alaska 99811

Dear Representative Gardiner:

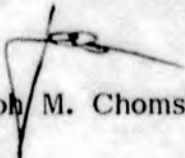
The man nominated this week by President Reagan to head the Federal Energy Regulatory Commission is Mike Butler, who wrote the Administration's Transition Paper on the Alaska Natural Gas Pipeline. He was one of the people I met with prior to my recent testimony before the Joint Natural Gas Pipeline Committee. Excerpts from Butler's Transition Paper were included in the testimony.

In my opinion, his level of knowledge of the project, and in particular his familiarity with financing obstacles and innovative tariffs, will provide a boost to the project's future. Alaska is probably fortunate to have Mike Butler as the prospective new Chairman of FERC.

If you have any questions regarding Butler's specific opinions on the Gasline, please call.

With best regards,

BIRCH, HORTON, BITTNER & MONROE


Joseph M. Chomski

JMC:skp
cc: Mark Wittow

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C. M. Butler, III
Administrative Assistant to
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142 Russell Senate Office Building
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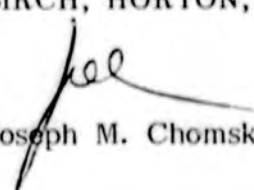
Dear Mike:

Congratulations on your nomination to be Chairman of the Federal Energy Regulatory Commission. I am sure that you will have no trouble receiving confirmation from the Senate.

As legal counsel to the Alaska Legislature on the Alaska Natural Gas Pipeline, your nomination is particularly gratifying. I believe the State of Alaska is fortunate that someone with your level of expertise on the project will be in a position to deal with it during the next few critical years. If there is any assistance that we can lend you with regard to the Gas Pipeline that does not violate FERC's ex parte rules, please call on us. Otherwise, best of luck in your extremely challenging new position.

With best regards,

BIRCH, HORTON, BITTNER & MONROE


Joseph M. Chomski

JMC:skp

bcc: The Honorable Terry Gardiner

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December 17, 1980

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Mr. Mark Wittow
Executive Director
Joint Natural Gas Pipeline Committee
1024 W. 6th Avenue
Anchorage, Alaska 99501

Dear Mark:

Attached is a report that I have long promised you covering the Northwest certificate application and other related documents. Per your request, we have added a section on FERC procedure. I hope the report is satisfactory to you. We are available to answer questions at any time. A copy has been forwarded to Mike Colletta.

I hope you had a nice vacation and look forward to meeting you early in 1981.

Warmest personal regards,

BIRCH, HORTON, BITTNER & MONROE



Joseph M. Chomski

JMC:brk

Attachment

To: Joint Natural Gas Pipeline Committee/Governors
Natural Gas Task Force

Re: Analysis of Final Certificate Application for the Alaska
Segment, Cooperative Agreement and Related Matters

INTRODUCTION

In a memorandum dated July 29, 1980 our firm outlined a proposal to prepare a report regarding certain aspects of the final certificate application of Alaska Northwest Natural Gas Transportation Company (Alaskan Northwest) for the Alaska segment of the Prudhoe Bay natural gas pipeline (FERC Docket No. CP80-435) and of the Cooperative Agreement between Alaskan Northwest, the Prudhoe Bay Natural Gas Producers (Atlantic Richfield Company, Exxon Corporation and Sohio) and the State of Alaska. This report will examine the content of these documents, and where possible analyze their impact upon prospects for development of a petrochemical plant in Alaska using North Slope natural gas liquids and upon general State interests in the development of the Alaska segment of the pipeline.

The certificate application consists of eight volumes, and several sections of the application have not yet been filed with FERC. Much of the information is technical in nature and will require analysis of an engineer and lawyer-engineer dialogue to determine its full implications for the State's interest. Due to these reasons and the time available, this analysis should be considered preliminary.

The following documents are discussed below:

1. The U.S. Court of Appeals for the District of Columbia Circuit January 3, 1980 decision in Earth Resources Company of Alaska, et al. v. FERC (D.C. Cir. No. 79-2191).
2. The FERC Final Environmental Impact Statement dated July, 1980 for the Prudhoe Bay Project in Docket No. CP78-123 et al.
3. Alaskan Northwest's application for the final segment of the Alaska gas pipeline and application for export permit filed July 1, 1980 in FERC Docket Nos. CP80-434 and CP80-435.
4. The Ralph M. Parsons Company September, 1978 study for the Prudhoe Bay Sales Gas Conditioning Facilities.

5. Alaskan Northwest's Supplement filed June 30, 1980 to its application to the Department of Interior for right-of-way grant for the pipeline, and the Interior grant of right of way of December 1, 1980.
6. Comments of the State of Alaska Office of the Pipeline Coordinator filed July 24, 1980 with the Department of Interior regarding Alaskan Northwest's supplement to its right-of-way application.
7. The Cooperative Agreement dated June, 1980 between Alaskan Northwest, the Prudhoe Bay Natural Gas Producers and the State of Alaska.

The road to pipeline construction remains somewhat uncertain, but the documents filed this year evidence substantial progress toward resolution of many problems (some of them quite sticky) and lead us to a somewhat improved outlook for 1981. As has been the case since 1976, the primary problem continues to be financing for the project. Of course, the submission and approval of each successive document or filing narrows the alternatives, be they routes, pipeline pressure, throughput composition or others. In turn, the opportunities for the State of Alaska to protect its interests by restructuring the pipeline or guaranteeing an instate gas liquids supply also diminish. (While the instate petrochemical project remains a live option today, it can be eliminated if firm contractual commitments for the North Slope liquids are made by the producers with out-of-state interests. While we know of no such arrangements or pending negotiations, we remain concerned that Alaska is not yet protected from such a prospect.

I. BACKGROUND

In September, 1977, in accordance with procedures established by the Alaska Natural Gas Transportation Act (15 U.S.C.A. §719, hereinafter ANGTA), the President approved a general proposal for the nature and route of the Alaska Gas Pipeline. The President's decision, subsequently ratified by Congress (Pub. L. No. 95-158), left many specifics of the pipeline design open for future final decisions by FERC and other agencies. Following the President's decision, FERC granted a conditional certificate of public convenience and necessity for the construction of the Alaska segment of the system, but this certificate did not specify the pipeline design. On March 2, 1979 Alaska Northwest applied to FERC for a final order approving certain pipeline design specifications; Alaska Northwest requested a 48 inch diameter pipeline with 1260 psig (pounds per square inch gage) maximum working pressure. The FERC gave notice of the application, invited and received comments, and on August 6, 1979 issued an order approving Alaskan Northwest's proposed pipeline diameter and pressure. After unsuccessfully petitioning FERC for rehearing, Earth Resources Company of Alaska and the State of Alaska appealed to the U.S. Court of Appeals for the District of Columbia Circuit. The D.C. Circuit issued its decision on January 3, 1980 which dismissed the appeals as premature under ANGTA. The pipeline pressure decision virtually assured that the gas conditioning plant would be

located on the North Slope, due to the apparent technical difficulties associated with transporting the heavier fractions in the 1260 psig line. As has been widely noted, locating the plant at Prudhoe Bay significantly limits state options with respect to utilization of gas liquids.

The Court's decision (Slip page 5) states as follows:

"Complainants claim that the Commission violated due process by deciding the pressure issue in isolation from decisions on such related issues as carbon dioxide content and conditioning plant design. By foreclosing options on these related issues, complainants contend, the Commission's piecemeal decision on the pressure issue has rendered any future hearing on the related issues meaningless, . . . The State of Alaska's desire to develop a petrochemical industry, which it says will be frustrated by the Commission's order, is far removed from the sort of legitimate claim to entitlement necessary to demonstrate a liberty of property interest." [footnote omitted]

The Court's dicta do not bode well for future State attempts to gain access to the natural gas liquids, if such access results in conflicts with federal authority and policy. While the dicta of the Court cannot be considered absolutely dispositive of the issue, it is a clear indication of potential problems ahead, especially given the constraints imposed on judicial review by the ANGTA. In this regard it may be the wisest policy for the State to seek a program for utilizing the natural gas liquids which to the greatest extent possible accommodates itself to the federal regulatory and policy framework rather than placing heavy reliance upon court-ordered modifications.

1. THE FERC FINAL ENVIRONMENTAL IMPACT STATEMENT
(FEIS) FOR THE SALES GAS CONDITIONING FACILITY
(SGCF)

The staff's FEIS analyzed a proposed SGCF design which was originally conceived by the 1978 R.M. Parsons Study discussed below. The Parsons Study was based on a number of assumptions*/ which, in hindsight, may not be correct. However, the FEIS does state that two critical issues

*/ The Parsons Study assumed that pipeline pressure would be 1,440 psig and that carbon dioxide maximum would not exceed one percent.

(pipeline pressure in the Alaska segment and the maximum allowable carbon dioxide concentration) will determine the percentage of the heavier NGL's that can be transported through the pipeline without operational problems. These two considerations will influence both the type of conditioning process chosen and the location of the SGCF. As indicated above, on August 6, 1979 the Commission decided that the pipeline's operating pressure should be set at 1260 psig. The FEIS discusses treatment of NGL's at the following pages: ii-iii, and v, 1-3, 7, 105-106, 131, 197, 205, 227-231. The FEIS concentrates primarily upon the environmental impact of construction and operation of the SGCF at various locations. The FEIS recommends however that the Prudhoe Bay site is environmentally acceptable, and is probably the best location for the SGCF. On the location issue the FEIS concludes that alternative sites for the SGCF would be technically feasible only if the decision were made to construct a pipeline capable of sustaining a higher maximum pressure than the presently authorized 1260 psig (page 205).

The FEIS also concludes that some of the NGL's should be used for fuel at the SGCF and for other fuel requirements at the Prudhoe Bay complex. These NGL's of course would not be available for any future petrochemical plant. The NGL's produced by the SGCF would include separate streams of ethane, propane, butane and pentanes plus. The FEIS states that these separate streams could be blended into fuel streams to control heating value, or blended into pipeline gas to the hydrocarbon dew point limitation (propane or butane), or blended into the crude (butane or pentanes plus) as limited by the vapor pressure specification (p. 231).

As was noted previously the location of the sales gas conditioning facility at Prudhoe Bay is largely an artifact of pipeline pressure and design specifications. And has also been previously noted, the location of the conditioning facility significantly limits the geographic scope of the State's ability to acquire natural gas liquids. Consequently, we believe it may be appropriate for the Committee to retain an consulting engineer to analyze the proposed SGCF to identify the specific technical limitations on transportation of NGLs which exist, alternative modes of transportation and utilization, and the possibility of using other fuels and the NGLs at the conditioning facility and the Prudhoe Bay complex. As pointed out above with respect to the decision by the Court of Appeals, modification of the conditioning facility or its relocation seems to be an unrealistic goal at this stage in the proceedings. Consequently, planning for utilization of the NGLs instate probably must proceed on the assumption that availability, both geographically and in terms of quantity, will be fixed within the broad perimeters outlined in the FEIS.

II. NORTHWEST ALASKA'S CERTIFICATE APPLICATION FOR THE FINAL SEGMENT OF THE ALASKA GAS PIPELINE AND APPLICATION FOR EXPORT PERMIT

I. THE STREAMLINED CERTIFICATE APPLICATION PROCEDURE AT FERC

The FERC has ordered special expedited procedures for consideration of Alaskan Northwest's application. The Commission's normal procedure is described in the paragraph below.

Under the Natural Gas Act (15 U.S.C.A. §717) it is unlawful for anyone to construct or operate any interstate natural gas pipeline in the United States without first obtaining a certificate of public convenience and necessity from the FERC. The required contents of the certificate application are usually quite voluminous, including designs for the proposed pipeline, evidence of economic feasibility of the proposed pipeline, financing plans, estimated future rates, environmental impact and other matters. The Commission normally publishes notice in the Federal Register of the filing of the application, and invites any interested persons to intervene and participate in future proceedings. If the application is for a small pipeline addition and is unopposed, the Commission in a few instances has issued the requested certificate without conducting full evidentiary proceedings. However, for a major contested application the Commission usually assigns the case to an administrative law judge to conduct evidentiary hearings. The presiding judge usually schedules prehearing conferences for the purpose of reaching stipulations of the parties, expediting discovery among the parties, and scheduling dates for filing prepared written testimony and hearings. After the close of all evidentiary hearings, the parties file briefs with the presiding judge setting forth their positions in favor of or in opposition to the proposed pipeline. The judge then issues an initial decision recommending that the Commission either issue a certificate (possibly with conditions) or deny the application, depending upon how the proposal affects the public interest. The parties then file briefs on exception to the initial decision with the Commission, and the Commission subsequently issues a decision either granting the certificate (with or without conditions) or denying the certificate.

Since the above procedure is usually time consuming, particularly when adverse parties wish to defeat or delay a project, the Congress passed the ANGTA to expedite all federal regulatory approvals for the Alaska Gas Pipeline Transportation System. Section 9(a) of ANGTA requires any certificate, right of way or other permit required by law from a federal agency, to be issued for the Alaska Natural Gas Transportation System on an expedited basis. Under Sections 9(c), (d) and (e), federal agencies may include terms and conditions for any certificates issued for the Alaska Gas Pipeline, but not if the terms and conditions would compel a change in the basic nature and general route of the approved transportation system.

On July 1, 1980 Alaska Northwest filed its application with FERC in Docket No. CP80-435 for a certificate under the Natural Gas Act and ANGTA authorizing construction and operation of the Alaska segment of the Alaska Natural Gas Transportation System. In an order of August 1, 1980 the FERC published notice of the application and established expedited procedures for its consideration of the application in keeping with section 9(a) of ANGTA. The Commission decided to utilize simple notice and comment procedures normally used in rulemaking proceedings. Instead of requiring the parties to file prepared written testimony and present witnesses at evidentiary hearings for cross examination, the Commission decided to hold a series of technical conferences to be presided over by the Commission's Alaskan Delegate, John Adger, in conjunction with the Office of the Federal Inspector. The Commission's Alaskan Delegate will issue a series of interim reports to the Commission reporting on the progress of the technical conferences. After conclusion of the technical conferences */ the Commission will issue a notice to the public requesting written comments on the Commission's proposed certification of the pipeline. The Commission, after review of any comments filed in the future, will issue its order on certification.

The Commission's August 1, 1980 order in Docket No. CP80-435 noted that the applicant requested, among other things, the following action from the Commission:

- (1) review and approval of the applicant's certification cost estimate (\$7.9 billion in 1980 dollars) and proposed center point of 1.292 ;
- (2) issuance of a final unconditional certificate of public convenience and necessity after review and approval of the applicant's financing plan for the pipeline;
- (3) approval of certain issues related to implementation of the incentive rate of return mechanism;
- (4) approval of the applicant's plan for financing of the Alaska segment; ?
- (5) a determination that the project costs do not "materially and unreasonably exceed" those considered as part of the President's decision.

*/ In late October, 1980, we supplied the Committee with a summary of certain of these technical conferences held in Washington, D.C.

✓

The Commission's August 1, 1980 order noted that the application omits all materials related to financing and cost of service analysis for the Alaska segment of the pipeline. The application contemplates that, after the final design of the Alaska segment and conditioning facilities are completed, a final financing plan will be filed. As of December 22, 1980 no financing plan, cost of service data, shippers tariffs or final design of the pipeline have yet been filed by Alaskan Northwest. The Commission's August 1, 1980 order noted that certain matters could not be decided by the Commission until the applicant submits its financing plan, such as the issues of the marketability of the gas, the continuing relationship of the proposed project to the national interest, and the relationship of the project's estimated cost to those considered at the time of the President's decision. Accordingly, the August 1, 1980 order deferred consideration of these issues, and also deferred issuance of a final certificate, until after the applicant files its proposed financing plan. However, the August 1, 1980 order directed the Alaskan Delegate to proceed with technical conferences on the remaining issues of the applicant's proposed certificate cost estimate, center point value, and the incentive rate of return mechanism.

2. FERC PROCESS: 1981

The last technical conference was held November 20, 1980. The Commission Staff's comments on the incentive rate of return, center point, cost estimate and certain design issues were filed with Mr. Adger on December 15, 1980; the Staff proposed center point and cost contingency figures lower than those in the application. Alaskan Northwest's reply comments were filed with Mr. Adger on December 22, 1980, and as expected, Alaskan Northwest opposed the Staff's position. It is anticipated that Mr. Adger will issue a draft report on the pending issues about mid-January or early February, 1981. Another technical conference will be convened within about ten days for the purpose of correcting minor mathematical or technical errors in Mr. Adger's draft report. Mr. Adger would probably issue his final report on the pending issues to the Commission in February, 1981. The Commission would then probably issue a notice requesting comments on Mr. Adger's final report. A final Commission order on the issues of incentive rate of return, cost estimate, center point and design issues would probably issue, at the earliest, in late March, 1981. However it is more likely that the Commission's final order on these issues will not be rendered until the spring of 1981.

In conversations with Alaskan Northwest spokesmen and FERC staff personnel, we have learned that Alaskan Northwest intends to supplement its application in the future with final designs (prepared by the Design Board) for the SGCF and Alaska segment. At present, it is expected that the Design Board may issue a preliminary design for the SGCF in February, 1981, and this is not expected to delay the pending proceeding at FERC. Alaskan Northwest also will file a supplement describing a proposed financing by the Producers; this will require new authorizing legislation but Alaskan Northwest is confident such legislation can be easily and quickly obtained from Congress.

The Commission previously (in Order No. 45) excluded the SGCF from the jurisdictional facilities to be covered by the final certificate. However the Commission could exercise some indirect control over the final design of the SGCF by conditioning the certificate in such a way as to specify the content or quality of natural gas to be introduced and transported through the pipeline.

When Alaskan Northwest files its proposed financing plan, it is anticipated that the Commission will issue another order directing the Alaska Delegate to expeditiously commence further technical conferences and prepare another report to the Commission regarding the deferred financing and cost of service issues discussed above. It is not yet known when Alaskan Northwest will make these supplemental filings, but the filings may possibly be made in the first half of 1981.

Because of the large number of issues being considered, it is probable that the FERC will not issue final orders granting the certificate exactly as requested by Alaskan Northwest. Instead the Commission is more likely to grant a certificate with conditions slightly modifying the project. Mr. Adger's final report to the Commission in February, 1981 should be a good indicator of the contents of any Commission final order.

After the Commission issues its last order granting a certificate and resolving all issues in this proceeding, any party may file with the Commission a petition for rehearing. The Commission's order on such petitions for rehearing would be subject to judicial review under Section 10 of ANGTA in the United States Circuit Court of Appeals for the District of Columbia.

There appears to be little or no opposition to the proposed pipeline in the pending FERC proceeding. However, if FERC imposes numerous or harsh conditions in its final order, Alaskan Northwest (and possibly other parties) may appeal in the future.

3. CONTENTS OF THE APPLICATION

The present application on file at FERC does not include specific designs for the SGCF or the Alaska segment of the pipeline. The Cooperative Agreement (discussed below) establishes a Design Board which will finalize designs for the SGCF and the Alaska segment of the pipeline. The application (Volume I, page 7; Volumes IV, VI, VII and VIII) states that the Alaska segment will have a diameter of 48 inches at a pressure of 1260 psig. The application does incorporate by reference the earlier 1978 R. M. Parsons Study (discussed below) for a proposed SGCF, but contains no specific final design for the SGCF or the Alaska segment.

As discussed above, the pending application also does not contain any specific proposal for financing the pipeline (Volume I, Exhibit L). As FERC staff has repeatedly stated in comments, this lack of financing plan continues to raise the question of whether the project can be certificated at all.

A consulting engineer should analyze Volumes IV, VI, VII and VIII to determine the effect of the proposed project on the potential for petrochemical development in Alaska. ✓

Volume I of the application requests the following action from the Commission prior to issuance of a final certificate:

- (1) Commission approval of the certification cost estimate and center point;
- (2) approval of the applicant's plan for private financing to be filed in the future;
- (3) a determination that the project costs are not unreasonably different from those considered as part of the President's decision and report.

The application states that the following matters will require Commission action prior to construction of the Alaska segment: establishment of the carbon dioxide content of the gas to be transported, and final resolution of Commission Order No. 45 which found that construction and operation of the Prudhoe Bay Gas Processing Facilities were the responsibility of the Alaska North Slope Producers. The application states the following matters will be the subject of future filings by Alaskan Northwest: shipper tariffs; downstream transportation and exchange agreements; to export and import Alaskan gas; and the remaining portions of the ANGTS eastern and western legs not previously certificated in the prebuilding proceedings (Volume I pg. 5). ✓

The application states that the financing plan could not be submitted in July, 1980, because Alaskan Northwest has recently entered into a cooperative agreement with the principal North Slope Producers (Exxon, Arco and Sohio). The Joint Statement of Intention in this agreement defines the process for developing a financing plan for the Alaska segment, including significant producer participation. Alaskan Northwest intends to submit the financing plan in the "future" (Vol. I, pg. 6). At present, our best guess is that the financing plan will not be finalized and submitted until May, 1981 at the earliest. 7 ✓

The certification cost estimate and the risk analysis which support the requested center point are submitted as exhibits K and Z-7 (discussed below).

Exhibit E of the application (Vol. I) states that Alaskan Northwest has four other filings pending before FERC in Docket No. CP78-123 et al. which are related to the application for the Alaska segment.

Exhibit F (Vol. I) contains two maps and gives a very generalized description of the proposed pipeline. The pipeline route is intended to utilize existing rights of way as much as possible.

Exhibit G (Vol. I) contains flow diagrams showing daily design capacity, both with the proposed additional nine compressor stations and with the initial Alaskan segment of only seven compressor stations.

Exhibit H (Vol. I) shows total estimated reserves and deliverability of the Prudhoe Bay Gas Field. Exhibit H states that the applicant will be a transporter of natural gas, and as such will not buy or sell natural gas. The FERC has found that, based on the best available data, the estimated reserves in place are between 40.4 Tcf to 42.8 Tcf, and recoverable reserves are approximately 25 Tcf. Nine natural gas companies have gas purchase contracts or letters of commitments from the three major producers in the Prudhoe Bay field, which represent 85 percent of the available gas. Six of the nine purchasing companies are members or affiliates of members of the Alaskan partnership. Exhibit H also states that production levels of the Prudhoe Bay field are governed by decisions of the Division of Oil and Gas Conservation of the Department of Natural Resources of the State of Alaska. This Division is presently considering amending the authorized production levels. The state may wish to monitor developments in this area, since a certificate conditioned on minimum levels of reserves and/or deliverability could significantly impair the State's ability to manage the reservoir. 

Exhibit I will be filed in the future, and will describe market data for sale of the gas. The application (Vol. I, Exhibit I) states that the shippers will be submitting this market data in the future.

Exhibit J (Vol. I) states that the shippers will also file information in the future to supplement the application regarding applications for facilities for the transportation and/or sale of the Prudhoe Bay gas.

Exhibit L regards financing and, as indicated above, the application states that financing data will be filed in the future. This is the major deficiency of the application at present.

Exhibit M (Vol. I) describes the applicant's management plan for construction, operation and management of the pipeline. The project management contractor will be Fluor Engineers and Constructors, Inc. of Irvine, California. Alaska Northwest will monitor Fluor's activities, but the actual detailed management of design and construction will be performed by Fluor and subcontractors. Exhibit M-4 states that Alaska Northwest Pipeline Company (a member of Alaska Northwest) will retain direct responsibility for coordination with all government agencies, obtain all government authorizations, and monitor compliance with government regulations.

Exhibit N (Vol. I) will be filed in the future with Exhibit L. Exhibit N will describe estimated revenues, expenses and income of the pipeline.

Exhibit O (Vol. I) describes the depreciation rate which will be used in the pipeline tariff, which was previously approved by the FERC by orders of June 8 and September 6, 1979 in Docket No. RM78-12.

Exhibit P (Vol. I) will be supplemented in the future with cost of service data in conjunction with the filing of Exhibit L. Exhibit P will describe Alaska Northwest's tariff as approved by FERC orders of June 8 and September 6, 1979 in Docket No. RM78-12. The FERC previously approved the applicant's tariff provisions with respect to billing commencement date, interim rate, service interruption, billing procedures, cost allocation and availability of transportation services. In those orders the FERC required Alaska Northwest to submit for FERC approval 12 months prior to the commencement of operations a modified tariff which will conform to the requirements of the Commission's rate orders.

Exhibit K gives the certification cost estimate of \$7.9 billion and is contained in Volume II. A matter of some concern to the state is contained in Exhibit K; viz., Northwest's inclusion for some \$203.4 million in proposed "impact assistance" payments to the State of Alaska to mitigate a variety of pipeline construction impacts. In their comments of December 15, 1980 (p. 32) Staff has opposed inclusion of this amount in the certification cost estimate, stating in part, "These costs are not required by statute, have been traditionally disallowed in other cases, and may be more properly supported by tax and royalty revenues from the project. Their inclusion would open Pandora's Box."

In discussions with FERC staff on this issue, we were informed that Alaskan Northwest had obtained the impact cost estimate of \$203.4 million from the State of Alaska and had included it in their application without further supporting evidence. Staff indicated that the state had undertaken to provide the justification for this amount to FERC. However, the deadline for filing such information was December 15, 1980, and as of December 29, 1980, the Staff had received no further information from Alaska on the subject.

Two issues appear to exist now with respect to the allowance of impact costs in the rate base: first, the basic policy question of whether impact assistance costs should be included in rate base; and second, the evidentiary issue of whether the state can supply sufficient factual justification to permit a favorable decision from FERC. The latter question is paramount at this point, since it is highly unlikely that the Commission will approve such a major cost item for inclusion in the rate base without additional supporting evidence. The state's best chance for collecting these impact assistance funds from Alaskan Northwest is to persuade FERC to allow inclusion of these costs in the certificate cost estimate. Therefore, submission of supporting information

with respect to the \$203.4 million is imperative at the earliest possible date. We believe that any attempt by the state to collect such costs, without FERC approval, will be opposed by Alaskan Northwest. Any future litigation of this issue is well beyond the scope of this report, it is safe to say that the state may have difficulty demonstrating that such charges are permissible exercises of the state's police power.

Another possibility is that the state has determined not to pursue this issue at FERC. If so, such a decision has not been communicated to FERC staff with whom we have spoken.

Exhibit Z-1 is contained in Volume III and is the applicant's proposed environmental engineering manual for construction and operation of the pipeline.

Exhibit Z-2 describes the proposed gas conditioning plant at Prudhoe Bay and is contained in Volume IV. Exhibit Z-2 states that the general location and layout of the gas conditioning plant will be in agreement with the information contained in the Commission's staff Prudhoe Bay Project Final Environmental Impact Statement discussed above. Exhibit Z-2 also states that the proposed gas conditioning plant design, construction and operation plans proposed in the R. M. Parsons Study discussed above are adopted by reference for the purposes of the application. However, as indicated above, the Parsons Study describes several general design alternatives, and was not a specific final design for the gas conditioning plant. (The final design for the gas conditioning plant, as well as the final design for the Alaska segment of the pipeline, should be completed by the Design Board in early 1981.) Page 3 of Exhibit Z-2 describes the composition of the sales gas, and indicates that the sales gas will contain small amounts of NGL's. The proposed sales gas composition will include 4.425 percent ethane which might possibly be utilized in a petrochemical plant if extracted from the Alaska segment somewhere in Alaska. Exhibit Z-2 should be analyzed by a consulting engineer to determine its impact on the potential for development of a petrochemical plant in Alaska.

The application reserves Exhibit Nos. Z-3, Z-4 and Z-5 for descriptive information relative to other segments of the ANGTS, and states that additional descriptive information will be submitted in conjunction with the Exhibit L financing plan. It is possible that these exhibits will be used for filing the final design of the sales gas conditioning facility and Alaska segment of the pipeline.

Exhibit Z-7 (Vol. V) describes Alaska Northwest's center point justification. The Commission previously directed that an incentive rate of return mechanism be used to provide an incentive for cost control during construction of the Alaska Natural Gas Transportation System. Under the incentive rate of return (IROR) mechanism the project sponsors will earn either higher or lower rates

of return depending upon their ability to control project costs. If actual costs are greater than estimated costs, sponsors will earn a lower rate of return on equity. If actual costs are below those estimated, the sponsors will earn a higher rate of return on their equity. The certification cost estimate includes a normal contingency of 12 percent to cover normal uncertainties of estimating future costs. Uncertainties from abnormal events which might raise future costs are covered by raising the estimates to a higher cost, which is termed the "center point." The applicant requests that the center point be set at 1.292, which means that if the actual cost of the project is exactly 1.292 times the certification cost estimate, there would be no penalty or downward alteration in the proposed rate of return. The applicant argues that there is convincing evidence that the potential for cost increases beyond the certification cost estimate, due to abnormal events, is substantial and therefore the center point must be substantially greater than 1.

Exhibit Z-9 (Vol. VI) is Alaska Northwest's design summary. This is not the final design of the pipeline, but is a generalized overview of the proposed pipeline as presently planned. Exhibit Z-9 should be analyzed by a consulting engineer.

Exhibit Z-9.1 through Z-9.5 (Vols. VII and VIII) describe and summarize design proposals for parts of the pipeline. These exhibits should be analyzed by a consulting engineer. Exhibit Z-9.1 is the proposal for the Alaska segment pipeline design. Exhibit Z-9.2 describes proposals for the compressor station designs. Exhibit Z-9.3 describes proposals for the Alaska segment communications system. Exhibit Z-9.4 describes the operations and maintenance facility to be located in Fairbanks Alaska. Exhibit Z-9.5 describes the design of temporary facilities to be utilized for construction of the gas pipeline, compressor stations, metering stations, and other elements of the pipeline system.

4. RALPH M. PARSONS COMPANY 1978 STUDY

The Ralph M. Parsons Company 1978 Study describes various proposals for a SGCF. This study was completed before the FERC limited the Alaska segment pressure at 1260 psig. Therefore several basic assumptions in the Parsons Study (Volume I, page 2-1) are probably no longer valid. As indicated above, the Design Board will complete a preliminary design of the SCGF in early 1981, and the final design should render the Parsons Study largely obsolete.

The Parsons Study discusses natural gas liquids at the following pages:

1978 Study - pages 2-2 to 2-3, 3-1 to 6-5.

February, 1979 CO2 Specification Study - pages 4-4 to 4-5, 4-9 to 4-10, 4-21 to 4-23.

III. NORTHWEST ALASKA JUNE, 1980 SUPPLEMENT TO APPLICATION TO THE DEPARTMENT OF INTERIOR RIGHT-OF-WAY

Under the Mineral Leasing Act of 1920, as amended, (30 U.S.C.A. §185) the Department of Interior has authority to issue grants for rights of way for certain natural gas pipelines to traverse federal lands, subject to approval of Congress. An original application for the Alaska segment right of way was submitted July 5, 1977 to the Department of Interior. The June, 1980, five volume supplementary application sought a right-of-way grant from the Department of Interior (DOI) for the portions of the pipeline to be built on "Federal land." The supplement stated (Volume I, p. 2) that the right-of-way, if granted, would be subject to Federal laws and regulations, and that the applicant would be subject to Federal regulation under the Natural Gas Act.

The supplement (Volume I, pp. 6-7) included as "Federal lands" certain land selections by the State of Alaska pursuant to the Alaska Statehood Act for which patents have not been issued by DOI. Also included as "Federal lands" were certain Native corporation selections and Native allotment applications under the Alaska Native Claims Settlement Act for which final Federal administrative approval had not been issued. Alaskan Northwest correctly included the selected but unapproved or unconveyed Federal lands in Alaska as being subject to the Secretary's powers to issue Federal rights-of-way grants. See, §6(g) of Alaska Statehood Act, 48 U.S.C. Prec. 21; §17(b)(1) of ANCSA, 43 U.S.C. 1616(b)(1).

The basic Alaskan Northwest Federal right of way grant was approved December 1, 1980. Since the right of way application was approved before the Alaska Lands Bill was signed into law, all lands conveyed or approved in the bill will be subject to this right of way. Secondly, Section 1327 of the Alaska Lands Bill contains several provisos to the effect that no provision in that legislation was to effect or impede the Alaska Natural Gas Pipeline process.

As additional assurance that the state, as a land owner, could not interfere in the right of way grant, Section 906(1) of the Alaska Lands Bill expressly preserves all existing rights of way permits or grants over state land. All subsequently issued conveyance documents must reflect the right of way and the Secretary shall continue to administer the right of way once it is reserved to the United States. This will ensure continued federal control, although

after tentative approval the receipts are to be paid to the State. Section 906(n) provides yet another safeguard by stating that no provision regarding the conveyance of state land shall alter or affect the rights or obligations of any party under the Alaska Natural Gas Transportation Act.

North Dakota's recent lawsuit which challenged federal decisions on siting of the Eastern leg of the Northern Tier Pipeline without seeking approval from the state's Public Service Commission brought into sharper focus the need for the foregoing provisions. The drafters of the Alaska Lands Bill attempted to limit third party lawsuits challenging the right of way grant as much as feasible. However, one kind of land grant conflict may not be as easily resolved. When Congress passed ANCSA in December, 1971, more than 1000 applications for land grants under the Alaska Native Allotment Act were pending. While the allotment act is also repealed under ANCSA, allotment applicants can still elect to receive a certificate of allotment, a kind of equitable title, for land personally used. A land survey was previously required before approval could be obtained, so it is altogether possible that allotment applications overlay the pipeline right of way. There is very little caselaw governing the Secretary's authority to grant rights of way across allotment applications, but general principles of public land law lead to the tentative conclusion that allotments will be subject to the right of way grant. However, this may be a troublesome issue in the months to come as all pending allotments were approved in the lands bill, and could provide a basis for litigation.

The final December 1, 1980, grant also requires Alaskan Northwest to enter into an indemnification agreement with Alyeska to pay for any damages caused by the construction and operation of either the natural gas pipeline or the oil pipeline in and adjacent to the federal rights-of-way. Lastly, Interior anticipates negotiating a memorandum of understanding with the state to resolve certain issues raised by the state's July 24, 1980 comments discussed below, and which are intended to facilitate acquisition of rights-of-way across remaining state and native lands.

VI. THE COMMENTS OF THE STATE OF ALASKA OFFICE OF THE PIPELINE COORDINATOR ON ALASKAN NORTHWEST'S RIGHT-OF-WAY APPLICATION

These comments dated July 24, 1980 indicate that the State of Alaska intends to attempt to exercise some regulatory control over pipeline construction and right-of-way.

The State's comments raised the following significant issues the final resolution of which will affect the State's interests:

- cover letter, page 2 - The application ignores NGL's, and contemplates possibly misusing them as fuel.
- cover letter, page 3, 4-5 and enclosure pages 23-24 -
The State intends to apply State law on Federal land; the comments also note that stipulations of the Federal grants should be consistent with conditions of State right-of-way leases for the pipeline over State-owned land.
- cover letter, page 4 - The State requests a joint State/Federal cooperative agreement be included in the right-of-way grant in order to eliminate any inconsistencies between Federal and State regulatory authority.
- cover letter, pages 5-6 - The State opposes the application's position that unconveyed State and Native land selections should be included in the Federal grant.

In conversations with DOI staff we have learned that the December 1, 1980 right-of-way grant has not resolved all of these issues and DOI will seek to enter into a memorandum of understanding with the State of Alaska in the future regarding resolution of some of these issues. It is clear that such a memorandum could have significant impacts on state authority to regulate the pipeline right-of-way and related matters.

VII. COOPERATIVE AGREEMENT BETWEEN ALASKAN NORTHWEST, THE PRUDHOE BAY NATURAL GAS PRODUCERS AND THE STATE OF ALASKA

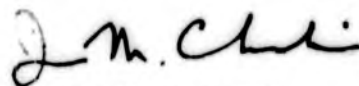
This agreement forms a Design Board to finalize designs for the SGCF and the pipeline in Alaska. As indicated above, preliminary designs will be filed with the FERC as a supplement to the certificate application, possibly as early as February of 1981. Any designs filed should be analyzed by a consulting engineer to determine any impacts on the potential for petrochemical development.

CONCLUSION AND RECOMMENDATION

As noted previously, this immediate phase of the proceedings appears to be nearing a conclusion. Significant state interests remain involved here, although it seems clear that the available options are narrowing daily. Specifically, the potential for instate use of NGLs has not yet been foreclosed by FERC action. However, decisions with respect to pipeline pressure and diameter, coupled with environmental recommendations of the FEIS have already limited the choices the state may make in terms of developing a petrochemical industry. Similarly, whether or not the state may recover any of its impact costs from Northwest appears increasingly in doubt, especially since to date no evidence in support of the claimed costs has been submitted to FERC.

These FERC proceedings and the negotiations under the Cooperative Agreement appear destined to take a back seat in 1981 to two matters: (1) pursuit of necessary changes in the ANGTA to allow North Slope producer equity financing and a billing commencement date satisfactory to the Canadians, and (2) the effects of interest rates and the economy generally on pipeline economics.

In our judgment these are the critical items which must be resolved before Alaskan Northwest can complete its filing of financial and other data with the FERC. And without such filings, it is hard to conceive that FERC can issue a certificate of public convenience and necessity for the pipeline. We are optimistic that FERC and the other federal agencies involved will continue to make relatively positive decisions with respect to the pipeline during 1981. We are at least guardedly optimistic that favorable Congressional action on amendments to the ANGTA may be forthcoming. In terms of interest rates and the economy, we make no prediction.



Joseph M. Chomski



C. Floyd Mathews

JMC:CFM:skp

To: Joint Natural Gas Pipeline Committee

Re: Analysis of Final Certificate Application for the Alaska Segment, Cooperative Agreement and Related Matters

INTRODUCTION

In a memorandum dated July 29, 1980 our firm outlined a proposal to prepare a report regarding certain aspects of the final certificate application of Alaska Northwest Natural Gas Transportation Company (Alaskan Northwest) for the Alaska segment of the Prudhoe Bay natural gas pipeline (FERC Docket No. CP80-435) and of the Cooperative Agreement between Alaskan Northwest, the Prudhoe Bay Natural Gas Producers (Atlantic Richfield Company, Exxon Corporation and Sohio) and the State of Alaska. This report will examine the content of these documents, and where possible analyze their impact upon prospects for development of a petrochemical plant in Alaska using North Slope natural gas liquids and upon general State interests in the development of the Alaska segment of the pipeline.

The certificate application consists of eight volumes, and several sections of the application have not yet been filed with FERC. Much of the information is technical in nature and will require analysis of an engineer and lawyer-engineer dialogue to determine its full implications for the State's interest. Due to these reasons and the time available, this analysis should be considered preliminary.

The following documents are discussed below:

1. The U.S. Court of Appeals for the District of Columbia Circuit January 3, 1980 decision in Earth Resources Company of Alaska, et al. v. FERC (D.C. Cir. No. 79-2191).
2. The FERC Final Environmental Impact Statement dated July, 1980 for the Prudhoe Bay Project in Docket No. CP78-123 et al.
3. Alaskan Northwest's application for the final segment of the Alaska gas pipeline and application for export permit filed July 1, 1980 in FERC Docket Nos. CP80-434 and CP80-435.
4. The Ralph M. Parsons Company September, 1978 study for the Prudhoe Bay Sales Gas Conditioning Facilities.

5. Alaskan Northwest's Supplement filed June 30, 1980 to its application to the Department of Interior for right-of-way grant for the pipeline, and the Interior grant of right of way of December 1, 1980.
6. Comments of the State of Alaska Office of the Pipeline Coordinator filed July 24, 1980 with the Department of Interior regarding Alaskan Northwest's supplement to its right-of-way application.
7. The Cooperative Agreement dated June, 1980 between Alaskan Northwest, the Prudhoe Bay Natural Gas Producers and the State of Alaska.

The road to pipeline construction remains somewhat uncertain, but the documents filed this year evidence substantial progress toward resolution of many problems (some of them quite sticky) and lead us to a somewhat improved outlook for 1981. As has been the case since 1976, the primary problem continues to be financing for the project. Of course, the submission and approval of each successive document or filing narrows the alternatives, be they routes, pipeline pressure, throughput composition or others. In turn, the opportunities for the State of Alaska to protect its interests by restructuring the pipeline or guaranteeing an instate gas liquids supply also diminish. While the instate petrochemical project remains a live option today, it can be eliminated if firm contractual commitments for the North Slope liquids are made by the producers with out-of-state interests. While we know of no such arrangements or pending negotiations, we remain concerned that Alaska is not yet protected from such a prospect.

I. BACKGROUND

In September, 1977, in accordance with procedures established by the Alaska Natural Gas Transportation Act (15 U.S.C.A. §719, hereinafter ANGTA), the President approved a general proposal for the nature and route of the Alaska Gas Pipeline. The President's decision, subsequently ratified by Congress (Pub. L. No. 95-158), left many specifics of the pipeline design open for future final decisions by FERC and other agencies. Following the President's decision, FERC granted a conditional certificate of public convenience and necessity for the construction of the Alaska segment of the system, but this certificate did not specify the pipeline design. On March 2, 1979 Alaska Northwest applied to FERC for a final order approving certain pipeline design specifications; Alaska Northwest requested a 48 inch diameter pipeline with 1260 psig (pounds per square inch gage) maximum working pressure. The FERC gave notice of the application, invited and received comments, and on August 6, 1979 issued an order approving Alaskan Northwest's proposed pipeline diameter and pressure. After unsuccessfully petitioning FERC for rehearing, Earth Resources Company of Alaska and the State of Alaska appealed to the U.S. Court of Appeals for the District of Columbia Circuit. The D.C. Circuit issued its decision on January 3, 1980 which dismissed the appeals as premature under ANGTA. The pipeline pressure decision virtually assured that the gas conditioning plant would be

located on the North Slope, due to the apparent technical difficulties associated with transporting the heavier fractions in the 1260 psig line. As has been widely noted, locating the plant at Prudhoe Bay significantly limits state options with respect to utilization of gas liquids.

The Court's decision (Slip page 5) states as follows:

"Complainants claim that the Commission violated due process by deciding the pressure issue in isolation from decisions on such related issues as carbon dioxide content and conditioning plant design. By foreclosing options on these related issues, complainants contend, the Commission's piecemeal decision on the pressure issue has rendered any future hearing on the related issues meaningless, . . . The State of Alaska's desire to develop a petrochemical industry, which it says will be frustrated by the Commission's order, is far removed from the sort of legitimate claim to entitlement necessary to demonstrate a liberty of property interest." [footnote omitted]

The Court's dicta do not bode well for future State attempts to gain access to the natural gas liquids, if such access results in conflicts with federal authority and policy. While the dicta of the Court cannot be considered absolutely dispositive of the issue, it is a clear indication of potential problems ahead, especially given the constraints imposed on judicial review by the ANGTA. In this regard it may be the wisest policy for the State to seek a program for utilizing the natural gas liquids which to the greatest extent possible accommodates itself to the federal regulatory and policy framework rather than placing heavy reliance upon court-ordered modifications.

1. THE FERC FINAL ENVIRONMENTAL IMPACT STATEMENT
(FEIS) FOR THE SALES GAS CONDITIONING FACILITY
(SGCF)

The staff's FEIS analyzed a proposed SGCF design which was originally conceived by the 1978 R.M. Parsons Study discussed below. The Parsons Study was based on a number of assumptions*/ which, in hindsight, may not be correct. However, the FEIS does state that two critical issues

*/ The Parsons Study assumed that pipeline pressure would be 1,440 psig and that carbon dioxide maximum would not exceed one percent.

(pipeline pressure in the Alaska segment and the maximum allowable carbon dioxide concentration) will determine the percentage of the heavier NGL's that can be transported through the pipeline without operational problems. These two considerations will influence both the type of conditioning process chosen and the location of the SGCF. As indicated above, on August 6, 1979 the Commission decided that the pipeline's operating pressure should be set at 1260 psig. The FEIS discusses treatment of NGL's at the following pages: ii-iii, and v, 1-3, 7, 105-106, 131, 197, 205, 227-231. The FEIS concentrates primarily upon the environmental impact of construction and operation of the SGCF at various locations. The FEIS recommends however that the Prudhoe Bay site is environmentally acceptable, and is probably the best location for the SGCF. On the location issue the FEIS concludes that alternative sites for the SGCF would be technically feasible only if the decision were made to construct a pipeline capable of sustaining a higher maximum pressure than the presently authorized 1260 psig (page 205).

The FEIS also concludes that some of the NGL's should be used for fuel at the SGCF and for other fuel requirements at the Prudhoe Bay complex. These NGL's of course would not be available for any future petrochemical plant. The NGL's produced by the SGCF would include separate streams of ethane, propane, butane and pentanes plus. The FEIS states that these separate streams could be blended into fuel streams to control heating value, or blended into pipeline gas to the hydrocarbon dew point limitation (propane or butane), or blended into the crude (butane or pentanes plus) as limited by the vapor pressure specification (p. 231).

As was noted previously the location of the sales gas conditioning facility at Prudhoe Bay is largely an artifact of pipeline pressure and design specifications. And has also been previously noted, the location of the conditioning facility significantly limits the geographic scope of the State's ability to acquire natural gas liquids. Consequently, we believe it may be appropriate for the Committee to retain an consulting engineer to analyze the proposed SGCF to identify the specific technical limitations on transportation of NGLs which exist, alternative modes of transportation and utilization, and the possibility of using other fuels and the NGLs at the conditioning facility and the Prudhoe Bay complex. As pointed out above with respect to the decision by the Court of Appeals, modification of the conditioning facility or its relocation seems to be an unrealistic goal at this stage in the proceedings. Consequently, planning for utilization of the NGLs instate probably must proceed on the assumption that availability, both geographically and in terms of quantity, will be fixed within the broad perimeters outlined in the FEIS.

II. NORTHWEST ALASKA'S CERTIFICATE APPLICATION FOR THE FINAL SEGMENT OF THE ALASKA GAS PIPELINE AND APPLICATION FOR EXPORT PERMIT

1. THE STREAMLINED CERTIFICATE APPLICATION PROCEDURE AT FERC

The FERC has ordered special expedited procedures for consideration of Alaskan Northwest's application. The Commission's normal procedure is described in the paragraph below.

Under the Natural Gas Act (15 U.S.C.A. §717) it is unlawful for anyone to construct or operate any interstate natural gas pipeline in the United States without first obtaining a certificate of public convenience and necessity from the FERC. The required contents of the certificate application are usually quite voluminous, including designs for the proposed pipeline, evidence of economic feasibility of the proposed pipeline, financing plans, estimated future rates, environmental impact and other matters. The Commission normally publishes notice in the Federal Register of the filing of the application, and invites any interested persons to intervene and participate in future proceedings. If the application is for a small pipeline addition and is unopposed, the Commission in a few instances has issued the requested certificate without conducting full evidentiary proceedings. However, for a major contested application the Commission usually assigns the case to an administrative law judge to conduct evidentiary hearings. The presiding judge usually schedules prehearing conferences for the purpose of reaching stipulations of the parties, expediting discovery among the parties, and scheduling dates for filing prepared written testimony and hearings. After the close of all evidentiary hearings, the parties file briefs with the presiding judge setting forth their positions in favor of or in opposition to the proposed pipeline. The judge then issues an initial decision recommending that the Commission either issue a certificate (possibly with conditions) or deny the application, depending upon how the proposal affects the public interest. The parties then file briefs on exception to the initial decision with the Commission, and the Commission subsequently issues a decision either granting the certificate (with or without conditions) or denying the certificate.

Since the above procedure is usually time consuming, particularly when adverse parties wish to defeat or delay a project, the Congress passed the ANGTA to expedite all federal regulatory approvals for the Alaska Gas Pipeline Transportation System. Section 9(a) of ANGTA requires any certificate, right of way or other permit required by law from a federal agency, to be issued for the Alaska Natural Gas Transportation System on an expedited basis. Under Sections 9(c), (d) and (e), federal agencies may include terms and conditions for any certificates issued for the Alaska Gas Pipeline, but not if the terms and conditions would compel a change in the basic nature and general route of the approved transportation system.

On July 1, 1980 Alaska Northwest filed its application with FERC in Docket No. CP80-435 for a certificate under the Natural Gas Act and ANGTA authorizing construction and operation of the Alaska segment of the Alaska Natural Gas Transportation System. In an order of August 1, 1980 the FERC published notice of the application and established expedited procedures for its consideration of the application in keeping with section 9(a) of ANGTA. The Commission decided to utilize simple notice and comment procedures normally used in rulemaking proceedings. Instead of requiring the parties to file prepared written testimony and present witnesses at evidentiary hearings for cross examination, the Commission decided to hold a series of technical conferences to be presided over by the Commission's Alaskan Delegate, John Adger, in conjunction with the Office of the Federal Inspector. The Commission's Alaskan Delegate will issue a series of interim reports to the Commission reporting on the progress of the technical conferences. After conclusion of the technical conferences */ the Commission will issue a notice to the public requesting written comments on the Commission's proposed certification of the pipeline. The Commission, after review of any comments filed in the future, will issue its order on certification.

The Commission's August 1, 1980 order in Docket No. CP80-435 noted that the applicant requested, among other things, the following action from the Commission:

- (1) review and approval of the applicant's certification cost estimate (\$7.9 billion in 1980 dollars) and proposed center point of 1.292 ;
- (2) issuance of a final unconditional certificate of public convenience and necessity after review and approval of the applicant's financing plan for the pipeline;
- (3) approval of certain issues related to implementation of the incentive rate of return mechanism;
- (4) approval of the applicant's plan for financing of the Alaska segment;
- (5) a determination that the project costs do not "materially and unreasonably exceed" those considered as part of the President's decision.

*/ In late October, 1980, we supplied the Committee with a summary of certain of these technical conferences held in Washington, D.C.

The Commission's August 1, 1980 order noted that the application omits all materials related to financing and cost of service analysis for the Alaska segment of the pipeline. The application contemplates that, after the final design of the Alaska segment and conditioning facilities are completed, a final financing plan will be filed. As of December 22, 1980 no financing plan, cost of service data, shippers tariffs or final design of the pipeline have yet been filed by Alaskan Northwest. The Commission's August 1, 1980 order noted that certain matters could not be decided by the Commission until the applicant submits its financing plan, such as the issues of the marketability of the gas, the continuing relationship of the proposed project to the national interest, and the relationship of the project's estimated cost to those considered at the time of the President's decision. Accordingly, the August 1, 1980 order deferred consideration of these issues, and also deferred issuance of a final certificate, until after the applicant files its proposed financing plan. However, the August 1, 1980 order directed the Alaskan Delegate to proceed with technical conferences on the remaining issues of the applicant's proposed certificate cost estimate, center point value, and the incentive rate of return mechanism.

2. FERC PROCESS: 1981

The last technical conference was held November 20, 1980. The Commission Staff's comments on the incentive rate of return, center point, cost estimate and certain design issues were filed with Mr. Adger on December 15, 1980; the Staff proposed center point and cost contingency figures lower than those in the application. Alaskan Northwest's reply comments were filed with Mr. Adger on December 22, 1980, and as expected, Alaskan Northwest opposed the Staff's position. It is anticipated that Mr. Adger will issue a draft report on the pending issues about mid-January or early February, 1981. Another technical conference will be convened within about ten days for the purpose of correcting minor mathematical or technical errors in Mr. Adger's draft report. Mr. Adger would probably issue his final report on the pending issues to the Commission in February, 1981. The Commission would then probably issue a notice requesting comments on Mr. Adger's final report. A final Commission order on the issues of incentive rate of return, cost estimate, center point and design issues would probably issue, at the earliest, in late March, 1981. However it is more likely that the Commission's final order on these issues will not be rendered until the spring of 1981.

In conversations with Alaskan Northwest spokesmen and FERC staff personnel, we have learned that Alaskan Northwest intends to supplement its application in the future with final designs (prepared by the Design Board) for the SGCF and Alaska segment. At present, it is expected that the Design Board may issue a preliminary design for the SGCF in February, 1981, and this is not expected to delay the pending proceeding at FERC. Alaskan Northwest also will file a supplement describing a proposed financing by the Producers; this will require new authorizing legislation but Alaskan Northwest is confident such legislation can be easily and quickly obtained from Congress.

The Commission previously (in Order No. 45) excluded the SGCF from the jurisdictional facilities to be covered by the final certificate. However the Commission could exercise some indirect control over the final design of the SGCF by conditioning the certificate in such a way as to specify the content or quality of natural gas to be introduced and transported through the pipeline.

When Alaskan Northwest files its proposed financing plan, it is anticipated that the Commission will issue another order directing the Alaska Delegate to expeditiously commence further technical conferences and prepare another report to the Commission regarding the deferred financing and cost of service issues discussed above. It is not yet known when Alaskan Northwest will make these supplemental filings, but the filings may possibly be made in the first half of 1981.

Because of the large number of issues being considered, it is probable that the FERC will not issue final orders granting the certificate exactly as requested by Alaskan Northwest. Instead the Commission is more likely to grant a certificate with conditions slightly modifying the project. Mr. Adger's final report to the Commission in February, 1981 should be a good indicator of the contents of any Commission final order.

After the Commission issues its last order granting a certificate and resolving all issues in this proceeding, any party may file with the Commission a petition for rehearing. The Commission's order on such petitions for rehearing would be subject to judicial review under Section 10 of ANGTA in the United States Circuit Court of Appeals for the District of Columbia.

There appears to be little or no opposition to the proposed pipeline in the pending FERC proceeding. However, if FERC imposes numerous or harsh conditions in its final order, Alaskan Northwest (and possibly other parties) may appeal in the future.

3. CONTENTS OF THE APPLICATION

The present application on file at FERC does not include specific designs for the SGCF or the Alaska segment of the pipeline. The Cooperative Agreement (discussed below) establishes a Design Board which will finalize designs for the SGCF and the Alaska segment of the pipeline. The application (Volume I, page 7; Volumes IV, VI, VII and VIII) states that the Alaska segment will have a diameter of 48 inches at a pressure of 1260 psig. The application does incorporate by reference the earlier 1978 R. M. Parsons Study (discussed below) for a proposed SGCF, but contains no specific final design for the SGCF or the Alaska segment.

As discussed above, the pending application also does not contain any specific proposal for financing the pipeline (Volume I, Exhibit L). As FERC staff has repeatedly stated in comments, this lack of financing plan continues to raise the question of whether the project can be certificated at all.

A consulting engineer should analyze Volumes IV, VI, VII and VIII to determine the effect of the proposed project on the potential for petrochemical development in Alaska.

Volume I of the application requests the following action from the Commission prior to issuance of a final certificate:

- (1) Commission approval of the certification cost estimate and center point;
- (2) approval of the applicant's plan for private financing to be filed in the future;
- (3) a determination that the project costs are not unreasonably different from those considered as part of the President's decision and report.

The application states that the following matters will require Commission action prior to construction of the Alaska segment: establishment of the carbon dioxide content of the gas to be transported, and final resolution of Commission Order No. 45 which found that construction and operation of the Prudhoe Bay Gas Processing Facilities were the responsibility of the Alaska North Slope Producers. The application states the following matters will be the subject of future filings by Alaskan Northwest: shipper tariffs; downstream transportation and exchange agreements; to export and import Alaskan gas; and the remaining portions of the ANGTS eastern and western legs not previously certificated in the prebuilding proceedings (Volume I pg. 5).

The application states that the financing plan could not be submitted in July, 1980, because Alaskan Northwest has recently entered into a cooperative agreement with the principal North Slope Producers (Exxon, Arco and Sohio). The Joint Statement of Intention in this agreement defines the process for developing a financing plan for the Alaska segment, including significant producer participation. Alaskan Northwest intends to submit the financing plan in the "future" (Vol. 1, pg. 6). At present, our best guess is that the financing plan will not be finalized and submitted until May, 1981 at the earliest.

The certification cost estimate and the risk analysis which support the requested center point are submitted as exhibits K and Z-7 (discussed below).

Exhibit E of the application (Vol. I) states that Alaskan Northwest has four other filings pending before FERC in Docket No. CP78-123 et al. which are related to the application for the Alaska segment.

Exhibit F (Vol. I) contains two maps and gives a very generalized description of the proposed pipeline. The pipeline route is intended to utilize existing rights of way as much as possible.

Exhibit G (Vol. I) contains flow diagrams showing daily design capacity, both with the proposed additional nine compressor stations and with the initial Alaskan segment of only seven compressor stations.

Exhibit H (Vol. I) shows total estimated reserves and deliverability of the Prudhoe Bay Gas Field. Exhibit H states that the applicant will be a transporter of natural gas, and as such will not buy or sell natural gas. The FERC has found that, based on the best available data, the estimated reserves in place are between 40.4 Tcf to 42.8 Tcf, and recoverable reserves are approximately 25 Tcf. Nine natural gas companies have gas purchase contracts or letters of commitments from the three major producers in the Prudhoe Bay field, which represent 85 percent of the available gas. Six of the nine purchasing companies are members or affiliates of members of the Alaskan partnership. Exhibit H also states that production levels of the Prudhoe Bay field are governed by decisions of the Division of Oil and Gas Conservation of the Department of Natural Resources of the State of Alaska. This Division is presently considering amending the authorized production levels. The state may wish to monitor developments in this area, since a certificate conditioned on minimum levels of reserves and/or deliverability could significantly impair the State's ability to manage the reservoir.

Exhibit I will be filed in the future, and will describe market data for sale of the gas. The application (Vol. I, Exhibit I) states that the shippers will be submitting this market data in the future.

Exhibit J (Vol. I) states that the shippers will also file information in the future to supplement the application regarding applications for facilities for the transportation and/or sale of the Prudhoe Bay gas.

Exhibit L regards financing and, as indicated above, the application states that financing data will be filed in the future. This is the major deficiency of the application at present.

Exhibit M (Vol. I) describes the applicant's management plan for construction, operation and management of the pipeline. The project management contractor will be Fluor Engineers and Constructors, Inc. of Irvine, California. Alaska Northwest will monitor Fluor's activities, but the actual detailed management of design and construction will be performed by Fluor and subcontractors. Exhibit M-4 states that Northwest Alaska Pipeline Company (a member of Alaska Northwest) will retain direct responsibility for coordination with all government agencies, obtain all government authorizations, and monitor compliance with government regulations.

Exhibit N (Vol. I) will be filed in the future with Exhibit L. Exhibit N will describe estimated revenues, expenses and income of the pipeline.

Exhibit O (Vol. I) describes the depreciation rate which will be used in the pipeline tariff, which was previously approved by the FERC by orders of June 8 and September 6, 1979 in Docket No. RM78-12.

Exhibit P (Vol. I) will be supplemented in the future with cost of service data in conjunction with the filing of Exhibit L. Exhibit P will describe Alaska Northwest's tariff as approved by FERC orders of June 8 and September 6, 1979 in Docket No. RM78-12. The FERC previously approved the applicant's tariff provisions with respect to billing commencement date, interim rate, service interruption, billing procedures, cost allocation and availability of transportation services. In those orders the FERC required Alaska Northwest to submit for FERC approval 12 months prior to the commencement of operations a modified tariff which will conform to the requirements of the Commission's rate orders.

Exhibit K gives the certification cost estimate of \$7.9 billion and is contained in Volume II. A matter of some concern to the state is contained in Exhibit K; viz., Northwest's inclusion for some \$203.4 million in proposed "impact assistance" payments to the State of Alaska to mitigate a variety of pipeline construction impacts. In their comments of December 15, 1980 (p. 32) Staff has opposed inclusion of this amount in the certification cost estimate, stating in part, "These costs are not required by statute, have been traditionally disallowed in other cases, and may be more properly supported by tax and royalty revenues from the project. Their inclusion would open Pandora's Box."

In discussions with FERC staff on this issue, we were informed that Alaskan Northwest had obtained the impact cost estimate of \$203.4 million from the State of Alaska and had included it in their application without further supporting evidence. Staff indicated that the state had undertaken to provide the justification for this amount to FERC. However, the deadline for filing such information was December 15, 1980, and as of December 29, 1980, the Staff had received no further information from Alaska on the subject.

Two issues appear to exist now with respect to the allowance of impact costs in the rate base: first, the basic policy question of whether impact assistance costs should be included in rate base; and second, the evidentiary issue of whether the state can supply sufficient factual justification to permit a favorable decision from FERC. The latter question is paramount at this point, since it is highly unlikely that the Commission will approve such a major cost item for inclusion in the rate base without additional supporting evidence. The state's best chance for collecting these impact assistance funds from Alaskan Northwest is to persuade FERC to allow inclusion of these costs in the certificate cost estimate. Therefore, submission of supporting information

with respect to the \$203.4 million is imperative at the earliest possible date. We believe that any attempt by the state to collect such costs, without FERC approval, will be opposed by Alaskan Northwest. Any future litigation of this issue is well beyond the scope of this report, it is safe to say that the state may have difficulty demonstrating that such charges are permissible exercises of the state's police power.

Another possibility is that the state has determined not to pursue this issue at FERC. If so, such a decision has not been communicated to FERC staff with whom we have spoken.

Exhibit Z-1 is contained in Volume III and is the applicant's proposed environmental engineering manual for construction and operation of the pipeline.

Exhibit Z-2 describes the proposed gas conditioning plant at Prudhoe Bay and is contained in Volume IV. Exhibit Z-2 states that the general location and layout of the gas conditioning plant will be in agreement with the information contained in the Commission's staff Prudhoe Bay Project Final Environmental Impact Statement discussed above. Exhibit Z-2 also states that the proposed gas conditioning plant design, construction and operation plans proposed in the R. M. Parsons Study discussed above are adopted by reference for the purposes of the application. However, as indicated above, the Parsons Study describes several general design alternatives, and was not a specific final design for the gas conditioning plant. The final design for the gas conditioning plant, as well as the final design for the Alaska segment of the pipeline, should be completed by the Design Board in early 1981. Page 3 of Exhibit Z-2 describes the composition of the sales gas, and indicates that the sales gas will contain small amounts of NGL's. The proposed sales gas composition will include 4.425 percent ethane which might possibly be utilized in a petrochemical plant if extracted from the Alaska segment somewhere in Alaska. Exhibit Z-2 should be analyzed by a consulting engineer to determine its impact on the potential for development of a petrochemical plant in Alaska.

The application reserves Exhibit Nos. Z-3, Z-4 and Z-5 for descriptive information relative to other segments of the ANGTS, and states that additional descriptive information will be submitted in conjunction with the Exhibit L financing plan. It is possible that these exhibits will be used for filing the final design of the sales gas conditioning facility and Alaska segment of the pipeline.

Exhibit Z-7 (Vol. V) describes Alaska Northwest's center point justification. The Commission previously directed that an incentive rate of return mechanism be used to provide an incentive for cost control during construction of the Alaska Natural Gas Transportation System. Under the incentive rate of return (IROR) mechanism the project sponsors will earn either higher or lower rates

of return depending upon their ability to control project costs. If actual costs are greater than estimated costs, sponsors will earn a lower rate of return on equity. If actual costs are below those estimated, the sponsors will earn a higher rate of return on their equity. The certification cost estimate includes a normal contingency of 12 percent to cover normal uncertainties of estimating future costs. Uncertainties from abnormal events which might raise future costs are covered by raising the estimates to a higher cost, which is termed the "center point." The applicant requests that the center point be set at 1.292, which means that if the actual cost of the project is exactly 1.292 times the certification cost estimate, there would be no penalty or downward alteration in the proposed rate of return. The applicant argues that there is convincing evidence that the potential for cost increases beyond the certification cost estimate, due to abnormal events, is substantial and therefore the center point must be substantially greater than 1.

Exhibit Z-9 (Vol. VI) is Alaska Northwest's design summary. This is not the final design of the pipeline, but is a generalized overview of the proposed pipeline as presently planned. Exhibit Z-9 should be analyzed by a consulting engineer.

Exhibit Z-9.1 through Z-9.5 (Vols. VII and VIII) describe and summarize design proposals for parts of the pipeline. These exhibits should be analyzed by a consulting engineer. Exhibit Z-9.1 is the proposal for the Alaska segment pipeline design. Exhibit Z-9.2 describes proposals for the compressor station designs. Exhibit Z-9.3 describes proposals for the Alaska segment communications system. Exhibit Z-9.4 describes the operations and maintenance facility to be located in Fairbanks Alaska. Exhibit Z-9.5 describes the design of temporary facilities to be utilized for construction of the gas pipeline, compressor stations, metering stations, and other elements of the pipeline system.

4. RALPH M. PARSONS COMPANY 1978 STUDY

The Ralph M. Parsons Company 1978 Study describes various proposals for a SGCF. This study was completed before the FERC limited the Alaska segment pressure at 1260 psig. Therefore several basic assumptions in the Parsons Study (Volume I, page 2-1) are probably no longer valid. As indicated above, the Design Board will complete a preliminary design of the SCGF in early 1981, and the final design should render the Parsons Study largely obsolete.

The Parsons Study discusses natural gas liquids at the following pages:

1978 Study - pages 2-2 to 2-3, 3-1 to 6-5.

February, 1979 C02 Specification Study - pages 4-4 to 4-5, 4-9 to 4-10, 4-21 to 4-23.

III. NORTHWEST ALASKA JUNE, 1980 SUPPLEMENT TO APPLICATION TO THE DEPARTMENT OF INTERIOR RIGHT-OF-WAY

Under the Mineral Leasing Act of 1920, as amended, (30 U.S.C.A. §185) the Department of Interior has authority to issue grants for rights of way for certain natural gas pipelines to traverse federal lands, subject to approval of Congress. An original application for the Alaska segment right of way was submitted July 5, 1977 to the Department of Interior. The June, 1980, five volume supplementary application sought a right-of-way grant from the Department of Interior (DOI) for the portions of the pipeline to be built on "Federal land." The supplement stated (Volume I, p. 2) that the right-of-way, if granted, would be subject to Federal laws and regulations, and that the applicant would be subject to Federal regulation under the Natural Gas Act.

The supplement (Volume I, pp. 6-7) included as "Federal lands" certain land selections by the State of Alaska pursuant to the Alaska Statehood Act for which patents have not been issued by DOI. Also included as "Federal lands" were certain Native corporation selections and Native allotment applications under the Alaska Native Claims Settlement Act for which final Federal administrative approval had not been issued. Alaskan Northwest correctly included the selected but unapproved or unconveyed Federal lands in Alaska as being subject to the Secretary's powers to issue Federal rights-of-way grants. See, §6(g) of Alaska Statehood Act, 48 U.S.C. Prec. 21; §17(b)(1) of ANCSA, 43 U.S.C. 1616(b)(1).

The basic Alaskan Northwest Federal right of way grant was approved December 1, 1980. Since the right of way application was approved before the Alaska Lands Bill was signed into law, all lands conveyed or approved in the bill will be subject to this right of way. Secondly, Section 1327 of the Alaska Lands Bill contains several provisos to the effect that no provision in that legislation was to effect or impede the Alaska Natural Gas Pipeline process.

As additional assurance that the state, as a land owner, could not interfere in the right of way grant, Section 906(1) of the Alaska Lands Bill expressly preserves all existing rights of way permits or grants over state land. All subsequently issued conveyance documents must reflect the right of way and the Secretary shall continue to administer the right of way once it is reserved to the United States. This will ensure continued federal control, although

after tentative approval the receipts are to be paid to the State. Section 906(n) provides yet another safeguard by stating that no provision regarding the conveyance of state land shall alter or affect the rights or obligations of any party under the Alaska Natural Gas Transportation Act.

North Dakota's recent lawsuit which challenged federal decisions on siting of the Eastern leg of the Northern Tier Pipeline without seeking approval from the state's Public Service Commission brought into sharper focus the need for the foregoing provisions. The drafters of the Alaska Lands Bill attempted to limit third party lawsuits challenging the right of way grant as much as feasible. However, one kind of land grant conflict may not be as easily resolved. When Congress passed ANCSA in December, 1971, more than 1000 applications for land grants under the Alaska Native Allotment Act were pending. While the allotment act is also repealed under ANCSA, allotment applicants can still elect to receive a certificate of allotment, a kind of equitable title, for land personally used. A land survey was previously required before approval could be obtained, so it is altogether possible that allotment applications overlay the pipeline right of way. There is very little caselaw governing the Secretary's authority to grant rights of way across allotment applications, but general principles of public land law lead to the tentative conclusion that allotments will be subject to the right of way grant. However, this may be a troublesome issue in the months to come as all pending allotments were approved in the lands bill, and could provide a basis for litigation.

The final December 1, 1980, grant also requires Alaskan Northwest to enter into an indemnification agreement with Alyeska to pay for any damages caused by the construction and operation of either the natural gas pipeline or the oil pipeline in and adjacent to the federal rights-of-way. Lastly, Interior anticipates negotiating a memorandum of understanding with the state to resolve certain issues raised by the state's July 24, 1980 comments discussed below, and which are intended to facilitate acquisition of rights-of-way across remaining state and native lands.

VI. THE COMMENTS OF THE STATE OF ALASKA OFFICE OF THE PIPELINE COORDINATOR ON ALASKAN NORTHWEST'S RIGHT-OF-WAY APPLICATION

These comments dated July 24, 1980 indicate that the State of Alaska intends to attempt to exercise some regulatory control over pipeline construction and right-of-way.

The State's comments raised the following significant issues the final resolution of which will affect the State's interests:

- cover letter, page 2 - The application ignores NGL's, and contemplates possibly misusing them as fuel.
- cover letter, page 3, 4-5 and enclosure pages 23-24 -
The State intends to apply State law on Federal land; the comments also note that stipulations of the Federal grants should be consistent with conditions of State right-of-way leases for the pipeline over State-owned land.
- cover letter, page 4 - The State requests a joint State/Federal cooperative agreement be included in the right-of-way grant in order to eliminate any inconsistencies between Federal and State regulatory authority.
- cover letter, pages 5-6 - The State opposes the application's position that unconveyed State and Native land selections should be included in the Federal grant.

In conversations with DOI staff we have learned that the December 1, 1980 right-of-way grant has not resolved all of these issues and DOI will seek to enter into a memorandum of understanding with the State of Alaska in the future regarding resolution of some of these issues. It is clear that such a memorandum could have significant impacts on state authority to regulate the pipeline right-of-way and related matters.

VII. COOPERATIVE AGREEMENT BETWEEN ALASKAN NORTHWEST,
THE PRUDHOE BAY NATURAL GAS PRODUCERS AND THE STATE OF ALASKA

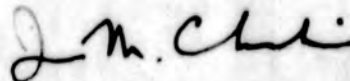
This agreement forms a Design Board to finalize designs for the SGCF and the pipeline in Alaska. As indicated above, preliminary designs will be filed with the FERC as a supplement to the certificate application, possibly as early as February of 1981. Any designs filed should be analyzed by a consulting engineer to determine any impacts on the potential for petrochemical development.

CONCLUSION AND RECOMMENDATION

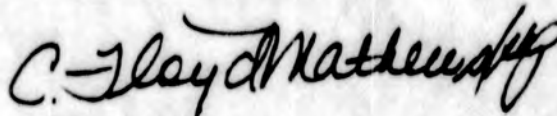
As noted previously, this immediate phase of the proceedings appears to be nearing a conclusion. Significant state interests remain involved here, although it seems clear that the available options are narrowing daily. Specifically, the potential for instate use of NGLs has not yet been foreclosed by FERC action. However, decisions with respect to pipeline pressure and diameter, coupled with environmental recommendations of the FEIS have already limited the choices the state may make in terms of developing a petrochemical industry. Similarly, whether or not the state may recover any of its impact costs from Northwest appears increasingly in doubt, especially since to date no evidence in support of the claimed costs has been submitted to FERC.

These FERC proceedings and the negotiations under the Cooperative Agreement appear destined to take a back seat in 1981 to two matters: (1) pursuit of necessary changes in the ANGTA to allow North Slope producer equity financing and a billing commencement date satisfactory to the Canadians, and (2) the effects of interest rates and the economy generally on pipeline economics.

In our judgment these are the critical items which must be resolved before Alaskan Northwest can complete its filing of financial and other data with the FERC. And without such filings, it is hard to conceive that FERC can issue a certificate of public convenience and necessity for the pipeline. We are optimistic that FERC and the other federal agencies involved will continue to make relatively positive decisions with respect to the pipeline during 1981. We are at least guardedly optimistic that favorable Congressional action on amendments to the ANGTA may be forthcoming. In terms of interest rates and the economy, we make no prediction.



Joseph M. Chomski



C. Floyd Mathews

JMC:CFM:skp

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NANCY J. SHAW
PATRICK H. OWEN
MICHAEL C. GERAGHTY
PERCY R. LUNEY*

* NOT ADMITTED IN ALASKA

July 21, 1980

The Honorable Mike Colletta
SRA Box 1458-K
Anchorage, AK 99502

Dear Senator Colletta:

This is to confirm our phone conversations of July 11 and July 16 wherein you have asked us to undertake for the JIPC an analysis of the FERC submission made by Northwest.

We will undertake such an analysis and furnish to the Committee, no later than Labor Day, the results of that analysis. The study will be conducted in our Washington, D.C. office and headed by Joe Chomski. It will be billed at our normal hourly rate.

Yours very truly,

BIRCH, HORTON, BITTNER, MONROE,
PESTINGER & ANDERSON

Ronald G. Birch / m.s.c.

Ronald G. Birch

RGB/mbr

cc: Joseph M. Chomski, Esquire

SCOMM

28.5



Alaska State Legislature

JOINT GAS PIPELINE COMMITTEE
1024 West 6th Ave.
Anchorage, Alaska 99501

(907) 279-1243

October 21, 1980

Dear Member of the Natural Gas Industry:

Attached are two requests for proposals: one for a study of the potential uses, in Alaska, of the state's royalty share of Prudhoe Bay natural gas, the other for a combined study of instate uses and the instate extraction and transportation of Prudhoe Bay gas liquids. The additional request for proposals for a combined liquids line/instate use study is being made for three reasons:

1. Several individuals have suggested that the issues to be analyzed in the two studies should be discussed together.
2. A combined study effort would avoid needless duplication, resulting in lower costs.
3. Those making the final decisions on the studies should have the greatest possible range of options from which to choose.

Study proposals for both separate liquids line and instate use studies, and for a combined effort, will be considered.

We would appreciate hearing from any firms that intend to submit a combined study proposal by the earliest possible date, by November 12, 1980 at the latest. The deadline for the actual submittal of the proposals is November 21, 1980.

Please contact me at the above address if I can be of assistance in any way.

Sincerely,

A handwritten signature in cursive script that reads "Mark Wittow".

Mark Wittow
Study Manager
Joint Gas Pipeline Committee

Senator Mike Colletta, Co-Chairman
Representative Terry Gardiner,
Speaker of the House

23 Capital Budget Proposed Project

Form 26 MUST BE COMPLETED AND ATTACHED WITH EACH PROPOSED PROJECT REQUEST

Feasibility Study of Alaskan Communities' TITLE Utilization of NW Pipeline Natural Gas				OPERATING BUDGET BRD Energy & Power Development																																											
PRIORITY GF 80-2	STARTING DATE 8-79	COMPLETION DATE 1-80	TOTAL PROJECT COST \$ 100.0																																												
LOCATION		AREA Communities along NW gas SERVED pipeline route	ELECTION DISTRICT 19,20,21																																												
SOURCE OF COST ESTIMATE DEPD			DATE OF ESTIMATE 10-78																																												
DESCRIPTION Conduct a detailed analysis of costs, major issues and constraints associated with tapping the Alaska portion of the natural gas pipeline for local community uses such as space heating and electrical power generation.																																															
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AGENCY _____

PROGRAM Energy Planning & Assistance

PROJECT & PRIORITY NO GF 80-2

26 Capital Budget Project Justification

OBJECTIVE:

To conduct a feasibility study for natural gas service to communities along the Alaska natural gas line.

Justify the project using the four headings below in the order they appear. Expand upon each section as required. Repeat heading when commencing response. Submit justification for each project listed in first column of Form 27. Attach feasibility studies, reports, or other documentation available. Use Form 23 as continuation sheet.

DOCUMENTATION OF NEED (Cite quantitative and measurable need.)

III. DOCUMENTATION OF ESTIMATED CAPITAL COST (Discuss degree of reliability.)

I. ANALYSIS OF IMPACT ON OPERATION: EXPENSE (estimate and justify.)

IV. IDENTIFICATION OF ALTERNATIVES CONSIDERED (State why rejected.)

I. JUSTIFICATION OF NEED

The cost and availability of energy remains one of the primary concerns of residents in rural Alaska. It often seems incongruous to Alaskan residents that the nation's storehouse of energy also faces some of the most severe energy problems.

Alaska will soon be exporting vast quantities of gas to the lower 48 through Canada. In many communities near or adjacent to the pipeline there is a very strong interest in using a very small amount of the gas for local use, particularly for electrical production and space heating. Only a cursory look at this potential has been made to date, however. A full understanding of these opportunities and their costs must be obtained in time to meet Northwest Gas Pipeline Company's advance design and engineer schedule in order that the gas taps can be incorporated in the final pipeline design. The Pipeline Coordinator's Office has indicated completion of the study by January 1980 will allow adequate time to meet the gasline timetables. In order to make the analysis more meaningful, some cost sharing from the local communities will also be requested.

PROJECT PURPOSE

(check all that apply)

- Improvement of Services ☐
- Accommodation of Increased Demand ☐
- New Program or Service ☐
- Accommodation ☐
- Project Mandated by Law or Regulation (cite) ☐
- Other Feasibility Study ☒

PROJECT BENEFITS

(check any that apply)

- Prevent loss of life or property ☐
- Reduction of accidents or illness ☐
- Protect investment in existing facilities ☐
- Improve production possibilities of Alaskan industries and/or earning capacity of citizens ☐
- Create potential for time or cost savings ☐
- Protect natural environment ☐
- Establish recreation potential ☐
- Other ☐

AGENCY Energy & Power Development

PROGRAM _____

PRIORITY NO. _____

Project Title: _____

Page 1 of 3

26

CAPITAL BUDGET
PROJECT JUSTIFICATION

The issued to be addressed include:

1. Facilities considerations and costs.

- a. Tap and valve only cost now and cost later
 - 1. Does tap impair integrity of gas line? How much?
 - 2. Are by-passes (potential tap points) normally provided around line safety valves? Compressor Stations?
 - 3. If so, how much latitude is permitted in their placement?
- b. Degree of simplicity allowable or desired and costs of City Gate Stations. (CGS)
 - 1. Required heaters and costs.
 - 2. Required meters and regulators and costs.
- c. Costs to construct a gas distribution system.
- d. Costs to construct a C.G.S. for a single purpose facility such as an electric utility or petrochemical plant.
- e. Operation and maintenance cost of each above.

2. Product considerations and costs.

- a. Costs or cost trends of North Slope gas.
- b. costs or cost trends of other fuels.
- c. Determine commercial life of North Slope gas field and gasline.
- d. Considerations and costs of operating Alaskan portion of line at reduced volume and pressure.

3. Computations.

- a. Determine volume required to justify cost of C.G.S.
- b. Population required to justify Distribution System.
- c. Communities or locations that might now or in the future justify C.G.S. or a tap.

4. Examine Financing options and possible repayment schemes.

5. Miscellaneous Environmental Impact Statements, permits, fees and land rights involved.

II. ANALYSIS IMPACT ON OPERATIONAL EXPENSE

Not applicable.

III. DOCUMENTATION OF ESTIMATED CAPITOL COSTS

Work will be contracted on a competitive basis from proposals received from individuals and organizations in response to detailed Request for Proposals issued by the Division. Other cooperating agencies will be the Divisions of Economic Enterprise, the Pipeline Coordinators Office and the Alaska Royalty Oil and Gas Development Board.

Total estimated cost is \$100,000.

IV. IDENTIFICATION OF ALTERNATIVES CONSIDERED

The uncertainty associated with attempting to pool potential funding sources eliminated this approach as a viable option to funding. Even in this case, local community contributions will be of a token nature in order to tie them actively to the effort. At this time Federal monies are not available.

AGENCY Energy & Power Development BRU

COMPONENT _____

DATE
REVISED _____



ENGINEERING INC.

DAMMAM
HOUSTON
LONDON
MELBOURNE
SINGAPORE

10 November 1980

Mr. Mark Wittow, Study Manager
Joint Gas Pipeline Committee
1024 West Sixth
Anchorage, Alaska 99501

Re: Instate Gas Use/Liquids Line Study
PLT's previous proposal dated
30 October 1980 "Gas Liquids Line
Study"

Dear Mr. Wittow:

In response to your request for proposals to combine the Liquids Line and Instate Gas Use Studies, PLT Engineering is pleased to submit the following to be considered in conjunction with our previous proposal:

1. We feel that the two studies may be readily combined and you are correct in assuming that this would reduce your cost.
2. Response to the specific items of the RFP section VIII are:
 - Item A: We propose to employ the same methodology as described in our previous proposal regarding the Gas Liquids Line Study.
 - Item B: The Principals in our firm remain the same.
 - Item C: The Work Performed Summary remains the same.
 - Item D: Your Timeframes are acceptable to PLT.
 - Item E: Manhour and expenses cost shall not exceed \$150,000.00.
 - Item F: The General Information previously submitted remains the same.
 - Item G: The Conflict of Interest Statement previously submitted, stands.
 - Item H: We will, of course, cooperate and take reasonable coordination actions with other studies. Additional cost or delays that may arise, due to this requirement, will result in increased overall study cost.



a concern for energy

Page Two
10 November 1980

We appreciate this opportunity to propose our service, and again look forward to working with you.

Very truly yours,

G. W. Stevens
Manager, Proposals

GWS/klg



Alaska State Legislature

Gas Pipeline Committee
1024 W. 6th Avenue
Anchorage, Alaska 99501
(907) 279-1243

September 30, 1980

Dear Member of the natural gas or pipeline industry:

Attached is a request for proposals to study the design and costs of the extraction and transportation of Prudhoe Bay gas liquids to an instate petrochemical facility. The study is sponsored by the Gas Pipeline Committee of the Alaska State Legislature. Its results will be used by state policy-makers, and the cost estimates will be used to aid private industry in making investment decisions.

We would appreciate your consideration of the research project, and look forward to the receipt of your proposal. Please contact me at the above address, if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Mark Wittow".

Mark Wittow
Study Manager

Senator Mike Colletta
Representative Bill Miles
Co-Chairmen

September 30, 1980

REQUEST FOR PROPOSALS - ALASKA STATE LEGISLATURE
GAS LIQUIDS LINE STUDY

This is a request for proposals of study of the engineering, design, construction and operation, and respective cost estimates, for a natural gas liquids (NGL) pipeline (and related extraction facilities) for transportation of Prudhoe Bay liquids to an instate petrochemical facility. The construction and operation cost estimates are to be used to establish realistic cost-of-service or tariff figures which shippers, producers, gas transmission firms, and others can use to make an investment decision.

I. BACKGROUND

Gas production from Alaska's Prudhoe Bay will commence within the next decade, probably by 1986 or 1987. Approximately two billion cubic feet per day of sales gas will be produced for the 20 to 25 year life of the field. The volume of ngl's, including ethane, will be approximately 150,000+ b/d. The State and private industry have demonstrated a longterm interest in examining opportunities for future gas-based petrochemical manufacturing in Alaska. The State recently entered into a Memorandum of Understanding and Intent with a petrochemical consortium headed by Dow Chemical U.S.A. and Shell Chemical Company. The Dow-Shell Group has agreed to undertake an indepth feasibility study of an instate petrochemical industry.

The study to be conducted through this Request for Proposals focuses, however, on one segment of the proposed instate industry, the transportation of the gas liquids to the facility site.

LIQUIDS LINE STUDY - 2

II. STUDY SPONSOR

The research will be conducted in consultation with the Joint Gas Pipeline Committee of the Alaska State Legislature. Mark Wittow will be the day-to-day study manager for the committee.

III. STUDY SCOPE

The goal of the study is to establish reasonable cost estimates for construction and operation of a gas liquids pipeline to transport Prudhoe Bay liquids to an instate petrochemical facility site. In addition, the study should identify costs of liquids extraction at Prudhoe Bay or other extraction points on the Alaska Natural Gas pipeline. The study should indicate realistic cost-of-service or tariff figures for the various transportation scenarios.

A. assumptions

The study should be based on the assumption that construction of the petrochemical system will be completed no earlier than 1986. The life of the liquids line should be calculated at 20 to 25 years, concurrent with the life of the Prudhoe Bay field. Phased-in construction of one to three world-scale (1 billion pounds/year) ethylene plants built to come on line four years apart should be assumed. The study should be based on the ultimate maximum economic utilization of recoverable ethane for ethylene production. Cost estimates should be in nominal dollars. For the purposes of this study, natural gas liquids is defined so

as to include ethane. To the extent technically feasible, it should be assumed that the liquids line will follow the routing of the Trans-Alaska Pipeline System.

B. cases/scenarios

The following cases should be examined:

1. Modified conditioning plant at Prudhoe Bay, additional low temperature refrigeration added to current Parsons design for the conditioning plant, with no liquid fractionation. A separate NGL line would be constructed from Prudhoe Bay to a tidewater location, with ethane then delivered to ethylene plant(s). The tidewater locations include the following: Kenai, North Cook Inlet, Point Gravina, and Valdez. The cost estimate should include the costs of liquids extraction equipment designed to take out 30,000 b/d of ethane at Prudhoe Bay for each ethylene plant, with either one, two or three ethylene plants ultimately being phased into production.
2. Modified conditioning plant at Prudhoe Bay, with additional low temperature refrigeration added to current Parsons design for conditioning plant and no liquid fractionation. A separate NGL line from Prudhoe Bay to Fairbanks, with ethylene complex at Fairbanks, and the rest of the liquids delivered in another liquids line to tidewater for export. Tidewater sites are the same as in Case No. 1 above.

LIQUIDS LINE STUDY - 4

3. Conditioning plant at Prudhoe Bay remains the same as designed by Parsons, with approximately two billion cubic feet per day of conditioned gas delivered to the Alaska Natural Gas Pipeline. At Fairbanks, the ethane and propane-plus are extracted and placed in a liquids pipeline and transported to a tidewater petrochemical facility site. The tidewater sites are the same as in Case No. 1 above.

C. cost considerations

The Contractor will want to examine the following possible construction and operating cost consideration:

1. Cost of delivery of construction materials, including size and weight limitations of transportation by Alaska Railroad for equipment shipments to Fairbanks and elsewhere, and barge transportation constraints.
2. Labor costs.
3. Construction cost adjustment factors for different locations in Alaska (Prudhoe, Fairbanks/the Interior, and tidewater sites) as compared to a U.S. Gulf Coast facility.
4. Adverse effect, if any, of major construction demands of the Alaska Natural Gas Pipeline system and related facilities which could require most readily available resources and thus impact construction costs for other facilities during the same time period.
5. Costs of special environmental requirements, if any, for potential routing and siting.
6. Penalties for reduction of BTU's in the Alaska Natural Pipeline stream (NGL shrinkage charges).
7. Wholesale values, state severance taxes and Alaska Natural Gas Pipeline BTU/mile tariff for those liquids recovered at Fairbanks.

LIQUIDS LINE STUDY - 5

8. Conditioning plant tariff.
9. Extraction plant cost, probably allocated to the recovered NGL on a liquid volume basis.

The study results should indicate the varying costs associated with only one ethylene plant in operation, with two ethylene plants in operation, and with three ethylene plants in operation. If the phased-in construction would appear to indicate a phased-in cost-of-service or tariff rather than a steady tariff over the life of the liquids line, that too should be clearly indicated.

D. additional work

In a separate section, the Contractor shall also examine the construction and operation costs of an all-methanol line from (a) Prudhoe Bay to Fairbanks and (b) Prudhoe Bay to tidewater.

IV. OTHER RESEARCH WORK

The Contractor will be furnished with other applicable research work done to date. Prior work has delineated the rate of gas production at Prudhoe Bay, and the various possible compositions and volumes of the gas stream. Other work has delineated probable pipeline sizes.

V. OTHER CONTRACT PROVISIONS

- (A) At least two on-site consultations will be required. The first will take place at the study's outset for research design, and the second before the submission of the final report for a review of the draft report. Each consultation

LIQUIDS LINE STUDY - 6

may require two days. Contract proposals should also discuss the ability of the contractor to provide continuing technical advice and assistance to the State after completion of the final report.

- (B) The study will become the property of the State of Alaska.
- (C) The study must be written in language and style readily understood by persons who are not economists or gas transmission experts.
- (D) Ten copies of a final report and one original that can be readily duplicated must be submitted. Ten copies of the draft report must also be submitted.

VI STUDY TIMEFRAME

Proposals must be received no later than October 31, 1980. A bid will be awarded no later than November 14, 1980. Preferably by December 1, 1980 a research work program will be finalized, and by February 20, 1980 the draft report will be submitted for review. An on-site consultation with the study manager would occur the ensuing week, and a final report prepared and submitted no later than March 20, 1980. The deadlines cited above may be treated as approximate ones.

VII COSTS

A maximum of \$200,000 has been allocated for this study. Bids exceeding this amount will not be considered on the same basis as bids within the cost limit.

VIII CONTENTS OF PROPOSALS

For full consideration, the proposal should contain the following:

- A. a general description of proposed methodology
- B. vitae of principals who would be assigned to the project,
with proposed allocations of responsibility and time
- C. summary of comparable work performed by the firm with references
and samples, if available for public release
- D. timeframes as closely corresponding with those cited above
as can be feasibly met by the firm
- E. a cost quotation
- F. general informational material on the firm
- G. A description of contacts with the following companies
that may pose a conflict of interest:

- Northwest Energy Co.
- American Natural Resources Co.
- Northern Natural Gas Co.
- Panhandle Eastern Pipe Line Co.
- United Gas Pipeline Co.
- Pacific Lighting Corp.
- Pacific Gas & Electric Co.
- Columbia Gas System
- Texas Eastern Corp.
- Texas Gas Transmission Corp.
- TransCanada Pipelines Ltd.
- Foothills Pipe Lines, Ltd.
- Alberta Gas Trunk Line Co. Ltd.
- West Transmission Co. Ltd.
- Atlantic Richfield Corp.
- Sohio Corp.
- Exxon Corp.
- Mobil Corp.
- Chevron Corp.
- Phillips Corp.
- Dow Chemical Co.
- Shell Oil Corp.

LIQUID LINES STUDY - 8

IX. EVALUATION

The proposals will be judged on the basis of the quality of the proposed methodology, the experience and involvement of the principal investigators, cost and timeframe.

If you have any questions, please contact Mark Wittow, Study Manager, Joint Gas Pipeline Committee, 1024 West Sixth, Anchorage, Alaska 99501, phone (907) 279-1243. Proposals should be submitted to Mr. Wittow at this address.

We appreciate your consideration of the research project, and look forward to receipt of your proposal.



5151 Fairbanks Street
Anchorage, Alaska 99503
907-276-2010
TELEX 090-26-374
VE-CON-AHG

November 21, 1980

Alaska State Legislature
Joint Gas Pipeline Committee
1024 West Sixth Avenue
Anchorage, Alaska 99501

Attention: Mark Wittow - Study Manager
Joint Gas Pipeline Committee

Subject: GAS LIQUIDS LINE STUDY

Dear Sir:

We appreciate your inclusion of VECO Engineers and Architects in the request for proposals for the Gas Liquids Line Study and have given this reasearch project considerable thought. However, conditions at this time dictate that we must decline your invitation. We are, however, in joint venture with the Pace Company submitting under separate cover a proposal on the Instate Gas Use Study.

We thank you again for including our company in both of these proposal requests, and we would appreciate our inclusion in any future solicitations for studies of this type.

Sincerely,

E. Tim Hampton
Engineering/
Project Engineering Manager

ETH:lh

**PLEASE NOTE: THE FOLLOWING PAGES WERE TREATED
AS A UNIT IN THE ORIGINAL DOCUMENT**

*May -
see me 1st
B*

PURVIN & GERTZ, INC.
CONSULTING ENGINEERS
2600 ONE MAIN PLACE
DALLAS, TEXAS 75250

OTTO K. WETZEL, JR.
PRINCIPAL

March 27, 1980

TELEPHONE 214/742-7201
TELEX 73-2321
CABLE PURGER

Representative Bill Miles
House of Representatives
Capitol Building, Room 120
Pouch V
Juneau, Alaska 99811

Dear Bill:

I appreciated your taking the time to see me on my recent visit to Juneau. We are enthused about the possibilities for recovery of the natural gas liquids and hopefully a petrochemical project in Alaska. However, time is short and things will come together in quite a hurry. If we can ever be of any assistance in this matter, we would be happy to work with you.

As I told you, I had already met with Chuck Webber, Terry Miller and Mike Colletta. Subsequently, I met with Bob LeResche, Tom Williams and, of course, Bob Maynard. Unfortunately I failed to make an appointment with Terry Gardiner, for which I am sorry.

I have given Terry and Bob LeResche a resume of some of the things we have been involved with and am enclosing a copy for your review. I am always a little hesitant to put these things down on paper, but the fact remains that we have been involved with a number of similar projects over the years. If we can be assistance to the State, we would be happy to do so.

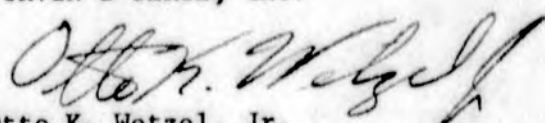
Needless to say, working for the State would preclude us from being involved on behalf of any company. As I told you, we have already turned down several opportunities because we felt that the State's needs were greater, and that nothing would be done unless the State put together the proper basis.

I should also mention that we have worked for the Federal Energy Regulatory Commission (FERC) on both the "Western Leg" and the "Northern Border" pipelines. We have just been informed that we are to undertake a similar review of the costs of the Alaskan portion, including the conditioning plant. While we may not see any conflict, that is something you and FERC would have to resolve.

If we can ever be of any assistance, please feel free to give us a call.

Yours very truly,

PURVIN & GERTZ, INC.


Otto K. Wetzel, Jr.

OKW:mec

Enclosure

DALLAS

HOUSTON

WASHINGTON, D. C.

LONDON

TOKYO

The Company

Purvin & Gertz, Inc. is an independent consulting firm specializing in the application of engineering principles and commercial experience to the solution of problems in the energy and chemical industries. We have purposely concentrated on developing an understanding of the interrelationships between the technical and economic aspects of these industries. In all of our assignments we use a business-oriented approach that is designed to provide our clients with the information necessary for decision-making.

Our professional staff is comprised principally of chemical engineers with extensive industrial experience. Several of our consultants have specialized knowledge in market research, financial analysis and political science, all of which are important in today's complex industrial atmosphere. Consultants are selectively assigned to each project to provide the client with those individuals who have the most appropriate experience. During the course of a project our consultants work closely with the client to insure that the ultimate objectives are attained.

Our firm has been in operation for over 25 years and is wholly-owned by member consultants. We are not connected with any engineering-construction company, equipment manufacturer or process licensor and can, therefore, provide unbiased advice and analysis with only the best interest of our client in mind. We have been retained by private companies in all phases of the energy and chemical industries, by financial institutions and government organizations in all parts of the world. During the past ten years we have developed a worldwide network of branch offices to better serve our U.S. and foreign clients in their international activities.

Purvin & Gertz, Inc.

DALLAS

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DALLAS, TEXAS 75250
Phone: 214 742-7201
Telex: 73-2321

HOUSTON

PENNZOIL PLACE
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HOUSTON, TEXAS 77002
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WASHINGTON

1000 CONNECTICUT AVENUE, N.W.
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WASHINGTON, D.C. 20036
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600 KATO BUILDING
2-19-2, AKASAKA, MINATO-KU
TOKYO, JAPAN
Phone: 585-6707
Telex: 781-26765

Affiliate

CALGARY

HYCARB ENGINEERING LTD.
640-7TH AVENUE, S.W.
CALGARY, ALBERTA T2P 0Y5
CANADA
Phone: 403 266-7086
Telex: 038-25717

PURVIN & GERTZ, INC.

CONSULTANTS

SPECIALIZING IN:

**POLICY PLANNING &
PROJECT MANAGEMENT**

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FOR:

PETROLEUM REFINING

NATURAL GAS PROCESSING

COAL PROCESSING

SYNTHETIC GAS MANUFACTURE

PETROCHEMICALS

**PIPELINES & OTHER
TRANSPORTATION**

INDEPENDENT CONSULTING SERVICES TO THE ENERGY & CHEMICAL INDUSTRIES

Policy Planning and Project Management

The primary role of Purvin & Gertz, Inc. is to advise on the conceptual and developmental aspects of projects in the energy and chemical industries. We are most often involved in the formative stages where we assist in turning a concept into a practical and realizable goal. We also serve as project managers on behalf of our clients in coordinating and managing the activities of other groups that may be involved in a project.

Our continuing involvement in numerous projects keeps us abreast of problems and solutions under various economic and political conditions. Because of these activities we can provide our clients with ideas concerning new business opportunities, feedstock sources and potential joint-venture partners. When a decision is made to proceed with a project we can assist in the preparation of bid specifications, selection

of a contractor, negotiation of contracts and planning of a product marketing program. With the increasing involvement of government agencies in industry, we are called upon to provide expert testimony for the various hearings necessary for project approval.

Economic Evaluations and Feasibility Studies

We estimate future profitability of business ventures involving process industry operations and related activities for our client's guidance in making business decisions concerning investment opportunities. Our economic projections and feasibility studies are relied upon extensively by numerous financial institutions.

We provide independent economic analysis for the financing of new facilities, expansions and modifications, and mergers or acquisitions. In addition, our valuations are used to compare competitive processes, to prepare business interruption insurance claims and to support other legal claims. Physical asset appraisals are made to determine replacement or depreciated value of existing facilities for insurance or tax purposes.

Project economics are evaluated taking into account current and expected future technological, economic and political factors. Full consideration is given to the competitive risks associated with each specific project. We are familiar with the sources

of venture capital as well as required cash flows or rates-of-return necessary to confirm project viability.

We also undertake technical reviews of new processes and, in some instances, certify plant performance on behalf of lenders and investors.

Market Surveys and Forecasts

Purvin & Gertz forecasts markets for energy products and chemicals to assist our clients in intermediate and long-range planning.

These involve—

- Supply/demand balances
- market surveys
- long-range forecasts
- market penetration evaluations

We maintain extensive statistical and technical files on energy sources, chemicals, fertilizers and related subjects. Through continuous contacts in these industries, we stay abreast of developments and trends which may affect product markets.

On occasion we undertake multi-client studies concerning future market developments for specific energy or chemical products or total energy surveys for specified geographical areas. Our detailed knowledge of markets is also an important ingredient in our feasibility and policy planning work.

PROJECT MANAGEMENT EXPERIENCE - NATURAL GAS PROJECTS

1953-1957

Purvin & Gertz acted as engineering consultants and project managers in the development of the Goliad Corporation owned by the H. W. Bass interests. This involved the development of five gas processing plants - four in Texas, one in Louisiana. At that time, these were among the largest gas processing facilities in the world. The work involved negotiating processing contracts with numerous major oil companies, sales contracts with gas pipelines, construction contracts and product sales contracts. These were among the first "straddle plants" built. The Goliad Corporation was subsequently sold to Mobil Oil Corporation.

1956-58

Purvin & Gertz acted as project manager on developing the Pembina Gas Conservation project in Alberta. The Pembina field was one of the largest fields (in surface area) then discovered. Due to the relatively low gas/oil ratio and low oil 'allowable' per well, ordinary gathering and processing facilities were uneconomic. We devised an "area processing" concept, together with a novel financing and processing scheme which enabled the economic conservation of the gas. The "Pembina formula" developed a reasonable sharing of the risk among producers and processors. I served as project manager, residing in Canada for over a year during this period. This plant is still operating and was sold in 1977 to Dome/Amoco for more than its original cost.

1959-1960

Purvin & Gertz did the initial study which led to the decision of TransCanada to have its gas processed before it left Alberta. This was the original "Empress Straddle Plant". As a result of this work, Purvin & Gertz negotiated the initial contract with Pacific Petroleum (Phillips) and oversaw the project on TransCanada's behalf until their staff was assembled. I made the original study and acted as project manager.

1960-1961

Purvin & Gertz was called in to do the final feasibility study when Northern Natural Gas Company was deciding whether to build the Bushton Straddle Plant in Kansas. Based on this study, Purvin & Gertz acted as project supervisor in the negotiation of the various contracts and appearances before the Federal Power Commission (now the Department of Energy) and for the sale of the products. It continued to function in this role until Northern built up its staff, and this included the selection of process, contractors, etc.

1960-1963

In conjunction with the Bushton plant, Northern contemplated the installation of a helium extraction plant in accordance with the U.S. government's helium conservation program. Here again, we negotiated the first helium extraction contract with the Helium Activity Division of The Bureau of Mines, and helped select the process and contractor for this installation. We served as advisers to Northern Natural in their recruitment of personnel for this project.

1968-1969

Purvin & Gertz perceived the need for an all-new ethane, propane, butanes and gasoline raw mix pipeline from West Texas/New Mexico to Houston. This concept was taken to Santa Fe Railroad which stood to lose rail transportation business to existing or expanded pipelines serving this market. In conjunction with Santa Fe Railroad, Purvin & Gertz developed this concept, including the negotiation of the throughput contracts with shippers, process selection for an extraction plant that provided some throughput, and in the selection of the pipeline contractor. I acted as project manager until permanent management could be obtained by Santa Fe Railroad. The Chaparral pipeline, as it is called, is a 600-mile gathering and trunkline system from Hobbs, New Mexico, to Mont Belvieu near Houston. The 12" main trunkline has a capacity of over 100,000 barrels per day and consideration is being given to enlarging it.

1965-1968

After the discovery of gas in the Cooper Basin area of South Australia, Purvin & Gertz did the initial market survey. On behalf of the producers, I acted as project supervisor during the development phase of that project, including negotiating, on behalf of the producers the gas sales contract. This also included the selection of the carbon dioxide removal process and assisting in selection of the contractor for both the pipeline and the processing plant. This 500-mile pipeline now serves the capital city of Adelaide in South Australia and the fields have subsequently been connected to Sydney, New South Wales. Purvin & Gertz and its Canadian affiliate, Hycarb Engineering Ltd., continue to act as advisors to the producers. I am currently involved in decisions regarding the recovery and marketing of the natural gas liquids.

1974

After oil was discovered in the North Sea, Purvin & Gertz conceived a need for a gas gathering system to gather associated gas, recover natural gas liquids and transmit through undersea pipeline to the United Kingdom. A consortium of P & O Steam Navigation Company, Cambridge Petroleum Royalty, Gulf Interstate Engineering, and an affiliated company of Purvin & Gertz undertook development of this project. This included negotiation of gas

transportation contracts, financing, and development and construction costs, etc. The project was terminated when the British Gas Corporation, the gas monopoly in Great Britain, determined that any such system should be undertaken by the state as opposed to private enterprise.

Otto K. Wetzel, Jr.
Purvin & Gertz, Inc.
March 1980 *OKW*

**PLEASE NOTE: THE PRECEDING PAGES WERE TREATED
AS A UNIT IN THE ORIGINAL DOCUMENT.**



INSTITUTE OF GAS TECHNOLOGY • 3424 SOUTH STATE STREET • IIT CENTER • CHICAGO, ILLINOIS 60616

GENERAL PHONE 312/567-3650
TELEX 25-6189
DIRECT DIAL 312/567- 3862

November 17, 1980

Alaska State Legislature
Joint Gas Pipeline Committee
1024 West 6th Avenue
Anchorage, Alaska 99501

RE: RFP INSTATE (ALASKA) GAS USE/
LIQUIDS LINE COMBINED STUDY

Gentlemen:

This is to advise that IGT will not submit a proposal in response to the subject RFP. Thank you for forwarding the RFP to us.

Please retain IGT on your mailing list for solicitations for energy R&D and related services.

Very truly yours,

William A. Siljander
Proposal Preparation

WAS/lr

GEORGE C. SILIDES

REGISTERED CIVIL ENGINEER

BOX 746

FAIRBANKS, ALASKA

(907) 456-1110

HAROLD H. GALLIETT, JR.

REGISTERED CIVIL ENGINEER

746 "F" STREET

ANCHORAGE, ALASKA

(907) 272-9212

A JOINT VENTURE

Representative Hugh Malone
Attn: Mr. Mark Wittow
Special Committee on Oil & Gas
Pouch V, State Capitol
Juneau, Alaska 99811

March 9, 1981

Dear Mark,

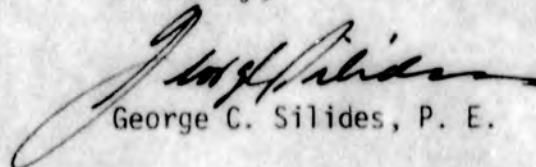
Thank you for your time and information regarding the several items of mutual interest during my recent visit to Juneau.

Following my meeting with you I met with several legislators, including Representative Gardiner, relative to instate use of natural gas. Representative Gardiner and I also briefly discussed the oil & gas taxing structure.

The tax structure and the probable need for a comparative analysis was also discussed at greater length with Joe Donahue, at Revenue, as suggested by your forwarding to him of our letters. He is discussing the matter further with Commissioner Williams and Attorney General Condon, in the light of the income tax case now venued in Washington, D. C. D. C.

I appreciate receiving copies of the report on Prebuilding The Pipeline and the general information on crude oil profitability. Any additional information and updates you have or may receive would also be very welcome, including word of your discussions with individual Committee members regarding the instate gas use study.

Sincerely,



George C. Silides, P. E.

H. ZINDER & ASSOCIATES CONSULTANTS

DIVISION OF ZINDER COMPANIES, INC.

1828 L STREET N.W. WASHINGTON D.C. 20036 · (202) 862-3400

November 21, 1980

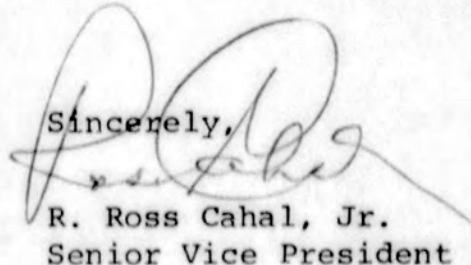
Mr. Mark Wittow
Study Manager
Joint Gas Pipeline Committee
1024 West 6th Avenue
Anchorage, Alaska 99501

Dear Mr. Wittow:

I apologize, for after indicating that we would be submitting a proposal for the combined Instate Gas Use/Liquids Line Study, we failed to develop an adequate proposal.

I hope that we might be considered in some of your future programs. We thank you for extending this opportunity to us.

Sincerely,

A handwritten signature in dark ink, appearing to read "R. Ross Cahal, Jr.", is written over the typed name and title. The signature is fluid and cursive.

R. Ross Cahal, Jr.
Senior Vice President

RRC:et

MAIN

CHAS. T. MAIN, INC.

PRUDENTIAL CENTER BOSTON, MASSACHUSETTS 02199 • TELEPHONE 617-262-3200

November 5, 1980

SUBJECT: Requests for Proposals
Instate Gas Use Study and Gas Liquids
Line Study

Mr. Mark Wittow
Study Manager
Joint Gas Pipeline Committee
1024 West 6th Avenue
Anchorage, Alaska 99501

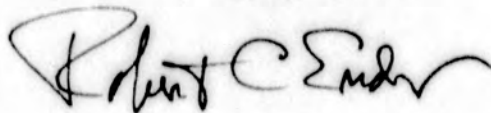
Dear Mr. Wittow:

Chas. T. Main, Inc. thanks you for the opportunity to review the above referenced requests and wishes to inform you that, after careful consideration, MAIN will not prepare proposals.

Please continue to send similar requests for our services and appropriate response.

Sincerely yours,

CHAS. T. MAIN, INC.



Robert C. Ender

RCE/PTK/lb
cc: G. S. Bingham
(Portland)

**WILLIAMS
BROTHERS
ENGINEERING
COMPANY**

A Resource Sciences Company

RESOURCE SCIENCES CENTER | 6600 S. YALE AVE | TULSA, OKLAHOMA 74177
PHONE (918) 496-5020 | TELEX 49-7493 WBEC-TUL

November 3, 1980

Joint Gas Pipeline Committee
Alaska State Legislature
1024 West Sixth
Anchorage, Alaska 99501

Attention: Mr. Mark Wittow

Re: Instate Gas Use Study

Dear Mr. Wittow:

This letter is to confirm our telephone conversation of Friday, October 31, 1980, wherein you were informed of Williams Brothers Engineering Company's intention to submit a further proposal for the Instate Gas Use Study. Williams Brothers is interested in doing both the Instate Gas Use Study and the Liquids Line Study, a proposal for which was submitted October 31.

Williams Brothers sees little reduction in cost by combining the two studies, however, it may be useful from an administrative point of view to have both supervised by the same study manager.

Williams Brothers endeavors to be completely responsive to the requirements of its clients. To that end, if you see any deficiency in the proposals submitted, or if you would like further information, please do not hesitate to call us.

Very truly yours,

WILLIAMS BROTHERS ENGINEERING COMPANY



J. S. Barton
Project Manager

JSB:scm/4530

H. ZINDER & ASSOCIATES CONSULTANTS

DIVISION OF ZINDER COMPANIES, INC.

1828 L STREET N.W. WASHINGTON D.C. 20036 • (202) 862-3400

November 3, 1980

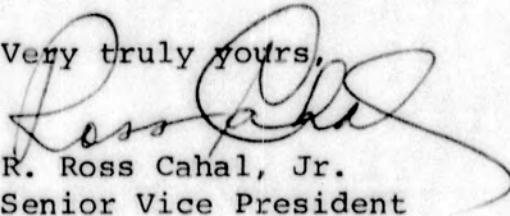
Mr. Mark Wittow
Study Manager
Joint Gas Pipeline Committee
1024 West 6th Ave.
Anchorage, Alaska 99501

Dear Mr. Wittow:

Following up our telephone conversation of October 31, we are intending to submit a proposal for the combined Instate Gas Use/Liquids Line Study which you invited in your letter of October 21, 1980.

We appreciate having the opportunity to submit the proposal.

Very truly yours,



R. Ross Cahal, Jr.
Senior Vice President

RRC:et

October 3, 1980

Mr. Mark Wittow
Alaska State Legislature
Gas Pipeline Committee
1024 West 6th Avenue
Anchorage, Alaska 99501

Dear Mark:

I have received the Gas Pipeline Committee's September 30 request for proposal on a study of the design and costs of extraction and transportation of Prudhoe Bay gas liquids. Our firm is considering submitting a proposal jointly with an Alaska engineering firm and others, but I would like your advice with respect to the possibility of a conflict of interest or apparent conflict.

We are consultants to Doyon, Ltd. regarding potential investments in energy-related projects. As you know, Doyon is a member of the Dow-Shell consortium, with a particular interest in the Northern leg (Prudhoe Bay to Fairbanks) of the gas liquids line, and our work for Doyon is likely to include advice on this project, including judgments regarding its economic and financial feasibility.

Our agreement to provide consulting services to Doyon expressly subordinates any work for the corporation to other professional relationships, including work for the State, and declares explicitly that we do not intend to become advocates for or take any interest in Doyon's ventures, nor will we undertake any other work that can reasonably be construed to jeopardize our objectivity.

Nevertheless, there may at some point be an appearance of conflict, and I would be interested in your judgment as to whether this situation necessarily precludes our participation in the study proposed by the Gas Pipeline Committee.

Sincerely,



Arlon R. Tussing



Battelle

Pacific Northwest Laboratories
P.O. Box 999
Richland, Washington U.S.A. 99352
Telephone (509) 376-4742
Telex 15-2874

October 6, 1980

Mr. Mark Wittow
Alaska State Legislature
Gas Pipeline Committee
1024 W. 6th Ave.
Anchorage, AK 99501

Dear Mr. Wittow:

Request for Proposals - Gas Liquids Line Study

We very much appreciate your providing a copy of the subject request for proposals. After careful review, we concluded that there are several other firms with more directly related experience that could be brought to the project. Therefore we will not be proposing.

You may know however that Battelle has just been retained by the Office of the Governor to conduct the Railbelt Electric Power Alternatives Study. Since there may be interaction between the gas liquids study and our project, I hope to be in contact with you in the future.

Sincerely,

W.H. Swift, Manager
Alaska Projects
Energy Systems Department

Bechtel Incorporated

Engineers - Constructors

Del Monte Tower
5575 Del Monte Drive
Houston, Texas 77056
Telephone: (713) 877-3000



Mail Address: P.O. Box 2166, Houston, TX 77001

October 15, 1980

Mr. Mark Wittow
Alaska State Legislature
Gas Pipeline Committee
1024 W. 6th Avenue
Anchorage, Alaska 99501

Dear Mr. Wittow:

We have received your study proposal inquiry dated September 30, 1980 addressed to members of the natural gas and pipeline industry. Bechtel is pleased to have been invited to submit a proposal to study the design and costs of the extraction and transportation of Prudhoe Bay gas liquids to an instate petrochemical facility.

After reviewing the proposal request, we must respectfully decline to submit a proposal due to our involvement and present contacts with our clients who are involved in the development of the North Slope of Alaska.

We again wish to thank you for considering Bechtel.

Yours very truly,

F.D. Valentino
Vice President
Manager of Business Development
Pipeline and Production Facilities Division

FDV:jp



Bonner & Moore Management Science

2727 Allen Parkway • Houston, Texas 77019
(713) 522-6800 • TWX: 9108812542

October 27, 1980

Mr. Mark Wittow
Study Manager
Joint Gas Pipelines Committee
Alaskan State legislature
1024 W. 6th Avenue
Anchorage, Alaska 99501

Dear Mr. Wittow:

This is to inform you that after a careful review of the two RFP's recently sent to us, one concerning a liquid pipeline and separation facility and the other an instate gas use study, we must decline to bid on either.

The liquid line and separation facilities engineering design study is beyond our normal consulting capabilities. In the case of the instate use of royalty gas, we must decline because of limited manpower resources of the type necessary for that activity.

We wish to remain on the potential bidder's list for any future request for proposals which may be developed by your agency.

Sincerely,

Franklin P. Frederick
Franklin P. Frederick
Vice President
Energy Economics

FPF:dj
cc: Monte Smith
Joe Moore

16 October 1980

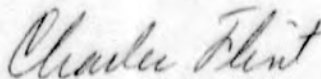
Mr. Mark Wittow, Study Manager
Alaska State Legislature
Gas Pipeline Committee
1024 West 6th Avenue
Anchorage, Alaska 99501

Dear Mr. Wittow:

We acknowledge your request for proposals to study the design and costs of the extraction and transportation of Prudhoe Bay gas liquids to an instate petrochemical facility. We have thoroughly evaluated the scope of the work that will be required to carry out your study and have determined that our workload during the period of performance of your study is such that we would not be able to give it the proper attention. For this reason we regret that we must decline the opportunity to present a proposal.

We are extremely interested in projects in Alaska and have a number of consulting engineers who are registered engineers in the State of Alaska. We appreciate your consideration in the future for projects that may develop at a later date.

Yours very truly,



Charles J. Flint
Senior Vice President

CJF:br

October 28, 1980



CHEM SYSTEMS INC.

1750 Montgomery St., San Francisco, CA 94111

Telephone (415) 397-6366 TWX 910 372 7380

Mr. Mark Wittow
Study Manager
Alaska State Legislature
Gas Pipeline Committee
1024 West 6th Avenue
Anchorage, Ak 99501

Dear Mr. Wittow:

It was a pleasure to speak with you on Friday concerning the current and future activities of the Gas Pipeline Committee. Thank you again for adding Chem Systems to the distribution list for RFP's relating to the work of the Committee.

Enclosed is a brochure describing the activities of Chem Systems. I am looking forward to meeting you during my next trip to Anchorage and please let me know when you will be in San Francisco. In the meantime, if I can be of any assistance, please do not hesitate to contact me.

Very truly yours,

Glenn W. Mortimer
Manager, Western Operations

GWM/mr
Enclosures

TRANSMITTAL SHEET

DAMES & MOORE

CONSULTANTS IN THE ENVIRONMENTAL AND APPLIED EARTH SCIENCES

800 CORDOVA • SUITE 101 • ANCHORAGE, ALASKA 99501 • (907) 279-0673

To: Alaska State Legislature
Gas Pipeline Commission
1024 W. 6th Avenue
Anchorage, AK 99501

Date October 30, 1980

Your Order No.

Our Job No. Prosp. File Santa Fe/State of AK

Attention: Mark Wittow

Subject: Proposal

We are sending you via hand delivery (Stewart Parker) the following proposal entitled:

Natural Gas Liquids Study, October, 1980

~~This is~~
These are for your consideration.

No. of copies submitted: 5

Copies to:

DAMES & MOORE

By James E. Hemming

DM International

Engineers and Constructors

October 16, 1980

ALASKA STATE LEGISLATURE
Gas Pipeline Committee
1024 W. 6th Avenue
Anchorage, Alaska 99501

Attention: Mr. Mark Wittow
Study Manager

Gentlemen:

In preparing for a response to your invitation to bidders concerning the extraction and transportation of Prudhoe Bay gas liquids, I have had conversations with Mr. Arlon Tussing. I expect Mr. Tussing to join in our proposal effort, however, he has informed me of yet another study being considered by the Gas Pipeline Committee.

It is my understanding that your committee will soon issue an RFP for a study of in-state uses of Prudhoe Bay natural gas and gas liquids.

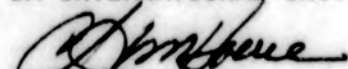
After due consideration, we firmly believe that this issue cannot reasonably be separated from the design of the Sales Gas Conditioning Facility and the consideration of an NGL pipeline.

DM International teamed with the Institute of Social and Economic Research at the University of Alaska and/or Arlon R. Tussing and Associates, Inc. and possibly Pipeline Technologists Inc. would like an opportunity to bid or to propose a single study incorporating both the Sales Gas Conditioning Facility/NGL Pipeline and the study for in-state uses. This request, however, does create a problem of timing as the in-state use study RFP has not yet been issued.

I would appreciate your consideration of this suggestion and your advice as to how this might best be handled.

Sincerely,

DM INTERNATIONAL INC.



C. J. von Hoene
Sales Manager



ENGINEERING-SCIENCE

930 SOUTH 336 STREET, SUITE B • FEDERAL WAY, WASHINGTON 98003

206/682-5060 SEATTLE
206/952-6722 TACOMA

October 14, 1980

Mr. Mark Wittow, Study Manager
Gas Pipeline Committee
1024 W. 6th Avenue
Anchorage, Alaska 99501

Reference: Gas Liquids Line Study

Dear Mr. Wittow:

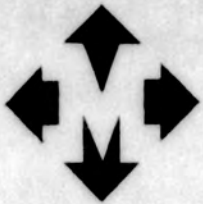
We appreciated receipt of your request for proposals for this project. At the present time, we are committed to other projects and are, therefore, unable to respond to your request. We would appreciate receiving notification of other future projects.

Thank you for your consideration.

Very truly yours,

DONALD L. HANSEN
Manager, Seattle Area Office

DLH:jk



mapco
INC.

W. H. THOMPSON, JR.
PRESIDENT
CHIEF EXECUTIVE OFFICER

October 20, 1980

Mr. Mark Wittow
Study Manager
Alaska State Legislature
Gas Pipeline Committee
1024 West Sixth Avenue
Anchorage, Alaska 99501

Dear Mr. Wittow,

Thank you for your request of September 30 for a proposal to submit a study on various phases of a natural gas liquids pipeline to handle Prudhoe Bay gas liquids.

We are very interested in this project as some of our major activities are transportation, storage and processing of such liquids. We regret that we cannot make a proposal at this time due to a very large expansion program of our own pipeline system which is now in progress.

Again, thank you for considering us and possibly we can participate in some way in the future.

Sincerely,

W. H. Thompson, Jr.

WHTjr/DAR/bev.

Procon Incorporated

A Subsidiary of Procon International Inc.
30 UOP Plaza—Algonquin & Mt. Prospect Roads
Des Plaines, Illinois 60016
Telephone 312-391-3700 • Telex 25-3280

October 22, 1980

Alaska State Legislature
Gas Pipeline Committee
1024 W. 6th Avenue
Anchorage, Alaska 99501

Attention: Mr. Mark Wittow
Study Manager

Subject: Prudhoe Bay Gas Liquids Study

Gentlemen:

Procon appreciates the opportunity to submit a proposal for the subject study. However, after an indepth review of the study requirements as they relate to the NGL transportation aspects of the project, we have reached the conclusion that we must decline to submit a proposal at this time. We trust that this decision will not inconvenience your committee.

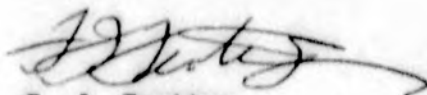
Procon is extremely interested in the extraction and storage aspects of this study and if that portion was separated from NGL transportation we would be in a position to submit a proposal addressing those aspects. Enclosed for your review is our brochure outlining our gas processing experience and capabilities.

Procon is pleased that you have afforded us the opportunity to make a proposal on this project and trust that we will continue to be considered for future projects that you may have.

Thank you again for your interest in Procon for this project. We look forward to working for the State of Alaska in the future.

Very truly yours,

PROCON INCORPORATED



F. J. Trotter
Vice President, Director of
Business Development

FJT/mls