

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 8672

1052 SCOMM 28: JOINT GAS PIPELINE COMMITTEE. 1981-82

been less if final design was more complete.¹⁸ Staff then alleges that since the costs of OFI approved design changes will be added to the CCE without regard to the Commission approved contingency, the Sponsors will reap a "windfall contingency." To eliminate this claimed windfall, it suggests the Commission recommend to OFI that "...prior to the approval of costs for a design change, the OFI should first ascertain whether the additional substituted costs of the design change are covered by or included in the contingency before ordering any increase in the Certification Cost Estimate." (Staff comments at 10). This argument demonstrates Staff's lack of understanding of the IROR mechanism approved by the Commission and what the contingency proposed by Alaskan Northwest covers. That contingency includes accuracy of material quantities, accuracy of material prices, human productivity assumptions, equipment reliability assumptions, engineering/design development, normal schedule variance, and accuracy of bid specifications based on current project definition. Thus, any further design change costs would bear no relationship to in-scope estimating uncertainties for the existing design, but would relate only to the newly proposed design component. As such, these costs by definition are not covered by Alaskan Northwest's filed normal contingency.

In normal industry practice, the Staff's position regarding the relationship between an engineering estimate and normal contingency is correct. As a project reaches a definitive design, the normal contingency theoretically would be reduced while costs previously covered by the contingency account would appear in the engineering estimate. Under the rules of the IROR this is not possible because Order Nos. 31 and 31-B require that the CCE (including contingency) be set prior to issuance of the unencumbered certificate. Any changes in the Projected Capital Costs from that time on will be for design and scope changes only. These change procedures are limited and will not allow any adjustments for changes in several components of the CCE, e.g., change in prices or productivity assumptions. Both of these components are part of the assessment of normal contingency. Because the Sponsors cannot change their assumptions for these components under the design change procedure, normal contingency should not be changed after the issuance of the unencumbered certificate.

¹⁸ Staff comments at 10.

II. CENTER POINT

As in the case of contingency, Staff agrees with the basic methodology for developing the expected Center Point value. Staff, however, has some specific disagreements with certain of the 36 Center Point events contained in Volume 5 of the filing. More particularly, Staff does not believe unknown-unknowns (Event No. 36) and capital market conditions (Event No. 25) will affect project costs and should, therefore, be eliminated. Staff would also reduce the expected values for certain other events where Staff substitutes its judgement for the upper values or alleges double-counting of risks already accounted for elsewhere in the engineering estimate or contingency. The Staff adjustments total \$923.8 million and reduce the filed expected Center Point value from \$2,271.1 million (the correct filed amount, as amended, is actually \$2,304 million) to \$1,347.3 million. As we demonstrate below, Staff's approximate one billion dollar adjustment is without valid justification.

A. Events Eliminated by Staff

1. Unknown-Unknowns (Event No. 36)

Staff would eliminate altogether this event from Center Point because Staff believes unknown-unknowns are not valid considerations for this project. Even if they were, Staff objects to 6.25 percent of the CCE as the expected value for the Center Point. Staff also urges elimination of unknown-unknowns on its belief their inclusion would render the project "totally free of risk," would set a "dangerous" precedent for other pipelines, and would duplicate protection contained in the Project Risk Premium.

The requested CCE and requested Center Point do not make the project risk-free. There is only a 50 percent chance that the Actual Project Costs will come in at or below the CCE and Center Point. Therefore, this is not a riskless investment. The equity dollars that Alaskan Northwest must invest in excess of the target costs will earn the penalty rate of eight percent. The Sponsors could earn a better return than that by depositing these same dollars in a neighborhood savings and loan. Moreover, other riskless investments such as U.S. Treasury bills are currently yielding an even higher percentage.

Because of where and how the Alaska segment is to be constructed, it is a unique, non-traditional pipeline project. Moreover, contrary to Staff's assertion, unknown-unknowns occur in traditional projects as well as first generation or higher technology projects. There are many examples of unknown-unknowns occurring in traditional projects, e.g., the recent incident of a drilling rig under contract to Texaco drilled into a salt mine in Louisiana, draining a small lake; the creation of earthquake swarms near the Rocky Flats Arsenal in Colorado due to the subsurface injection of radioactive wastes; the discovery of the snail darter fish which delayed the Tellico Dam Project; and the failure of the frames of new Grumman Flexible Buses.¹⁹

¹⁹ See Los Angeles Times, December 21, 1980, p. 4, col. 4.

Although Staff quarrels with the 6.25 percent value for costs impacts from unknown-unknowns, it does not suggest any alternative method for developing such a value. In fact, the 6.25 percent value is conservative given the magnitude of the project. Essentially, this low value for unknown-unknowns indicates that the costs from all unidentified abnormal events are expected to rise no more than 6.25 percent above the CCE. Thus, this value reflects our confidence in the filed cost estimate. A report by the Rand Corporation on project cost growth shows that the filed value for unknown-unknowns events is reasonable.²⁰ This report states that exogenous (abnormal) events and scope changes (which are very narrowly defined under the IROR orders) are primary contributors to cost growth. Further, this study compares the ratios of actual to estimated costs for over 200 traditional and non-traditional projects. In this analysis, even highway projects, which have very low uncertainty, have an average ratio of 1.2621 times the estimated cost.²² This is much greater than the current staff position which includes no estimates for design and scope changes while the Rand report includes many design changes in cost estimates established just prior to construction. Furthermore, the expected actual cost increase in highway projects is 1.26 times the estimate (including contingency). In contrast, Alaskan Northwest has requested a Center Point of 1.282 times the CCE, i.e., the engineering cost estimate plus contingency. Certainly a Center Point value of 1.282 including \$490 million for unknown-unknowns and abnormal events is not unrealistic when compared to highway cost growth experience of 1.26.

Staff's "precedent" argument against unknown-unknowns is a red herring. Staff's argument that unknown-unknowns should not be allowed because no other pipeline project has included them is premised on Staff's erroneous view that this project is comparable to conventional pipelines. To the contrary, the size, location, and schedule of this project make it nonconventional. Moreover, inclusion of unknown-unknowns in the Center Point would not set a precedent for other pipelines because no other projects are subject to the incentive rate-of-return concept required by the President's Decision and implemented by Order Nos. 31 and 31-B. No other pipeline project has had to bear the risks of costs overruns within the meaning of IROR. Similarly, no provision for unknown-unknowns was made in the 1977 estimate, because there was no IROR requirement at that time.²³

Staff's contention that unknown-unknowns duplicate risk protection provided by the Project Risk Premium is another example of Staff's lack of understanding of Order No. 31. The Project Risk Premium is designed to compensate the Sponsors for the risk of non-completion. Order No. 31 states as follows:

20 See Rand Corporation, "A Review of Cost Estimation in New Technologies: Implications for Energy Process Plants," 89 (July, 1979).

21 Id. at 87.

22 The ratio was developed using estimates made just prior to construction as opposed to the CCE which is established several years prior to construction. Also, the estimates included contingency.

23 We would note that Event No. 36 does not relate to unknown design related matters, but is intended to provide protection to the Sponsors for unknown events that could occur during the construction phase of the project.

The Project Risk Premium is added to the Operation Phase Rate to compensate investors for their risk exposure during the construction of the pipeline. The possibility of not completing the pipeline is the major risk faced by investors in the ANGTS. (Order at 72.)

...the Project Risk Premium compensates for a reasonable estimate of non-completion risk. (Id. at 74) (footnote omitted).

Once construction commences, the risk of non-completion will substantially be lessened. Thus, the Project Risk Premium does not cover the costs of abnormal events during construction.

Several of Staff's other comments regarding unknown-unknown events are also erroneous. First, unknown-unknown events were not intended to be an inflation protection mechanism. Inflation protection is included in the inflation adjustment procedures as defined in Order Nos. 31 and 31-B.

Second, it is not obvious that costs would be reduced if 60-foot joints of pipe were used instead of 40-foot joints. In fact, an analysis of this very scenario was conducted by Fluor. The use of 60-foot joints rather than 40-foot joints involves a trade off between welding with associated cost increases. Two 40-foot joints can be double jointed at a double jointing facility and hauled to the site as an 80-foot joint. It is highly impractical to double joint two 60-foot lengths and haul the resultant 120-foot lengths to the site. Special and expensive transportation and handling equipment would be necessary for this process. Therefore, 60-foot lengths could not be practicably double jointed. For a 240-foot section of 60-foot joints three field welds would be required with associated handling and transportation costs during construction, whereas for the same 240-foot section using 40-foot joints four shop welds and four field welds would result. Since it is basic that a shop weld is cheaper than a field weld the Staff has incorrectly assumed that the use of 60-foot joints would categorically reduce costs.

Third, as discussed earlier in this section, the inclusion of unknown-unknown events does not yield a risk-free project. Staff's approach to Event No. 36 again demonstrates lack of objectivity. The 6.25 percent value for unknown events can only be viewed as being conservatively low and must remain in the Center Point in order to provide Alaskan Northwest the opportunity to earn the incentive rate of return which the Commission, after considerable deliberations, has deemed to be just and reasonable, rather than the penalty rate of 8 percent.

2. Capital Market Conditions (Event No. 25)

Staff would also totally eliminate the expected value of \$21.4 million for this event which has been included to protect against a capital squeeze which impacts the EC's, all subcontractors, their suppliers, and thus the Sponsors. This event was not included to reflect varying market conditions on project debt costs as Staff erroneously presumes.

In view of the current conditions of the capital markets, it is difficult to see how Staff can state "that capital market conditions will not effect direct construction costs..."²⁴ A change in the capital markets will obviously increase

²⁴ Commission Staff Comments at 18.

the borrowing costs of a contractor or subcontractor engaged in a project. For example, contractors use short term lines of credit extensively to pay their suppliers and labor while awaiting repayment by the owner. They will include these borrowing cost impacts in their bids as part of their overhead as a real cost, not as contingency. Thus, contrary to Staff's position, the Cost Performance Ratio will be affected. ---

The engineering cost estimate assumed stable capital market conditions. Abnormal Event No. 25 only assesses a 10 percent probability that the current stable conditions would change. Given today's market conditions the filed values are reasonable and must be included in the Center Point.

3. Determination of Proximity of Aggregate After Final Design (Event No. 8)

Staff would eliminate the \$65.8 million expected cost impact for this event because it believes this risk has already been covered by the 30 percent allowance in the base estimate for shrinkage of aggregate. Staff also raises this contention in its discussion of the base estimate. (Staff comments at 35.) As we more fully explain infra in our response, there is no double-counting here. The 30 percent allowance, which Staff agrees is reasonable, is to compensate for the predictable and certain loss of gravel during the transportation from the gravel pit to the right-of-way. Event No. 8 is concerned with the risk that aggregate haul costs will increase beyond those expected, because mining permits will not be issued for optimally located aggregate sites or such sites will not contain as much aggregate as is expected. Thus, the 30 percent allowance goes to expected, normal costs for the gravel itself, and Event No. 8 goes to abnormally high costs to haul the gravel. Alaskan Northwest believes that Staff's position is due to a misunderstanding of the purpose of Event No. 8. This event must remain in the Center Point.

B. Events Reduced by Staff

1. Vendor Quality Assurance and Quality Control Problems (Event No. 15) and Vendor Failure to Perform (Event No. 17)

Staff's total proposed reduction of the expected cost impacts for Event Nos. 15 and 17 are grounded in Staff's opinion that the testing program in the base estimate should preclude the occurrence of any cost impacts from vendor QA or QC problems and a vendor's failure to perform will have no adverse cost impacts. Neither opinion has any support. First, the base estimate item only provides for testing. While testing can reduce Vendor QA and QC problems, it cannot eliminate them completely. Vendor QA and QC problems can in fact add costs to the project, including: increased manufacturing costs billed to the purchaser, premium transportation charges to deliver late material to the job site, delays awaiting material, and rework when poor quality material is replaced. Each of these impacts can also have severe ripple effects. For example, problems with pipe quality (even with continuous in-the-mill inspection) frequently require rework in the field. Because this is not encountered until hydrotesting, the cost impacts are much greater than the additional cost of one joint of pipe (the supplier will be liable for only the cost of the additional joint). The vendor ordinarily will not assume responsibility for any additional costs other than the cost to provide a replacement or repair a defective part.

Second, vendor failure to perform can result in substantial additional costs, whether the failure occurs in the early or late stages of construction. For example, if other vendors were booked up with orders, Alaskan Northwest would have to wait until a new vendor's schedule could accommodate Alaskan Northwest's order. The delay would result in additional real costs. Alternatively, Alaskan Northwest might have to pay premium prices for expedited treatment or for the vendor to expand its capacity. Also, in case of vendor failure, there might not be time to resort to competitive bidding. Even if there was sufficient "catch-up time," real costs will be incurred. Thus, Staff's position must be rejected.

2. Sabotage, Vandalism, and Theft (Event No. 31)

Staff believes that the combination of these three items in the same event attributes excessive probabilities to sabotage and excessive cost impacts to vandalism and theft. Therefore, Staff would divide this event into two events: Sabotage (Event No. 31-A) and Vandalism and Theft (Event No. 31-B) and assign reduced probabilities and cost impacts to the new events. In essence, all Staff is doing is substituting its naked judgement for that of the experts who went through the rigorous encoding procedures to develop the values for Event No. 31. Staff offers no support for its contention that subdivision of this event should reduce the overall potential cost impacts.²⁵ Staff's approach should be rejected.

3. Center Point Events 9, 12, 13, 14, 15, 19, 21 and 2326

Staff requests a total dollar reduction of \$218.4 million in the Center Point value for Events 9, 12, 13, 14, 15, 19, 21 and 2327 based upon its belief that such amount was included either in the base estimate as part of the EC's lay rate estimate and Joint Venture bid, or in the pipeline and civil portion of the overall 12 percent normal contingency.

The overview of the relationship of the different components of Alaskan Northwest's cost estimate, and how risks have been allocated to the components, helps establish a base from which specific responses to Staff positions can be made. Generally, it must be stated that: (1) Staff has only analyzed Events 9, 12, 13, 14, 15, 19, 21, and 23 with respect to pipeline construction, and not the complete scope of the project; (2) Staff gives little or no justification for its

25 Staff's allegation that the loss for major theft for all of Alyeska is \$150,000 is absurd. Perhaps Staff's definition of major theft only includes stolen aircraft.

26 Event No. 9 - Impact of Weather on Construction.
Event No. 12 - Terms and Conditions of Project Labor Agreement.
Event No. 13 - Strikes and Slowdowns.
Event No. 14 - EC Quality Assurance and Quality Control Problems.
Event No. 15 - Vendor Quality Assurance and Quality Control Problems.
Event No. 19 - Domestic Outlets for Construction Materials.
Event No. 21 - Domestic Outlets for Construction Equipment.
Event No. 23 - Domestic Outlets for Craft Labor/Foreman.

27 Staff proposes a \$71.8 million reduction for Event No. 9 and a \$146.6 million reduction for the remaining events.

values,²⁸ (3) Staff's experience with this project, Alaskan conditions, and pipeline construction is limited; (4) groups of events are lumped together to form a plug figure for Staff's "EC risk" category; and, (5) Staff has inadvertently reduced its own revised values for specific events in making its adjustment for EC risk.

In addition Staff fails to understand how the cost effect of the risks included in the pertinent Center Point items will be passed on to the Sponsors. For example, in bidding for construction contracts, contractors will qualify their bids to protect themselves from losing money under fixed-price contracts. They will attach qualifications to their bids because they do not have the resources or time to conduct the same thorough analysis of the project that Alaskan Northwest will have completed by that time. These qualifications will allow them to seek relief from the Sponsors for cost increases resulting from elements of the bid which have been qualified. Most bid qualifications will include cost impacts resulting from inaccurate or complete designs at the time of bidding, abnormal weather, ripple effects from other activities, and government actions such as permitting delays.

If Alaskan Northwest adopted a very restrictive bid qualification policy contractors would either increase their contingency or refuse to bid.²⁹ If they refuse to bid, then Alaskan Northwest will be forced to develop a new bid qualification policy and resubmit bid packages. The delay would be expensive and contractors will have received a more liberal bid qualification policy. Either way, Alaskan Northwest will bear the risk of increased costs.

Contractors will also have the ability to pass through to Alaskan Northwest the risk of cost increases resulting from differences between actual construction conditions and designs (including design and scope changes) and those described in the bid packages. This will be accomplished through change in scope orders.³⁰ Thus, deviations from the bid package will allow contractors to receive cost relief. Examples of potential change orders are: changes in government monitoring

28 The Sponsors question whether the Staff and its consultants went through a rigorous encoding process to determine their revised values? Whether many experts were consulted? Whether everyone had a clear concept of the definitions of the components of project risk? Whether the encoders understood the IROR procedure? Whether specific scenarios were questioned? There is no evidence to support that any of the required procedures were followed. In fact, there is ample evidence to the contrary.

29 Contractors will expect a liberal change order policy for this project due to its complexity, size, and previous experience in Alaska. As in the case of bid qualifications, Alaskan Northwest is not in the position to adopt a restrictive change order policy, because either contractor contingency would increase dramatically or else Alaskan Northwest would not receive any bids. In fact, members of the Execution Contractor panel stated that this project must have a liberal change order procedure if it is to receive competitive bids. See Transcript of November 20, 1980 at 11.

30 These change in scope provisions must be distinguished from the change in scope mechanism adopted by the Commission in Order Nos. 31 and 31-B.

procedures, changes in mode type in a given area due to a change in soil conditions, changes in schedule resulting from unanticipated fish streams or timing of salmon migration, and ripple effects from other construction activities which impact a contractor's costs. --

Another example of a change in scope is a strike of pipeline construction workers despite an anticipated no-strike clause in the Project Labor Agreement. If this occurs, the Sponsors could be directly liable for any direct costs associated with time lost during the strike, as well as ripple effects which are created by the strike. Such ripple effects could include subsequent changes in wage rates or work rules and impacts on common trades working on compressor stations. Because the PLA will be signed before bid packages are prepared, contractors will make the Sponsors responsible for all labor actions by means of scope changes. Thus, if a strike occurs, they will request cost relief under this mechanism.³¹

Other categories which present significant risks to both Alaskan Northwest and its contractors are the domestic and world markets for labor, transportation services, materials, construction equipment, and qualified contractors. The EC's will absorb only part of this risk for the resources they supply.³² However, in growing anticipation of shortages they will include their expectations of their risk in their bids and petition for relief from ripple effects created by other components of the project which are outside their control. This liability includes not only potential increase in unit prices (which are adequately treated in the IROR inflation adjustment procedure), but also the ripple effects created by tighter delivery schedules, poorer quality materials and equipment, and inexperienced labor. These conditions will exist if the demand in the world market for materials and supplies increases significantly as it did in 1974. This looms as a serious problem to Alaskan Northwest because all available information points to a worldwide construction boom during this project, e.g., the synthetic fuel facilities planned in the U.S. and abroad, and the recently proposed 2000 mile gas pipeline in Russia. Subsequent to the filing, the Sponsors have initiated more detailed studies on the conditions of world markets for key project resources during the life of the project. All available information suggests serious problems during the construction phase of the Alaska segment.

With this background we now analyze Staff's specific concerns relating to each event.

31 This example highlights one of the major direct liabilities facing Alaskan Northwest. That is, Order Nos. 31 and 31-B establish a scope change mechanism that is much more restrictive than the provisions, including force majeure clauses, which normally appear in construction contracts. Consequently, Alaskan Northwest has included many abnormal events in its Center Point analysis which, under normal construction practice, would be covered by scope changes or force majeure clauses.

32 For example, Alaskan Northwest will absorb the risks for all materials it directly purchases, such as mainline pipe, compressors, camps, etc. These latter costs are not the EC's risk because Alaskan Northwest has assumed the responsibility to assure that all necessary materials are available on a timely basis and in the proper quantities and according to project and bid specifications.

a. Impact of Weather on Construction (Event No. 9)

The impact of weather on construction activities is one of the most obvious examples of an abnormal event. There is no doubt that it exists and that abnormal weather will impact the project during each of the three years of heavy construction activity. Despite this, Staff believes that there is only a 1 in 10 chance that there will be eight days of delay due to abnormal weather in the entire project.³³

Furthermore, its expected case considers only four days of abnormal weather, or 1.3 days per year. This is a remarkably optimistic view of Alaskan weather and it is not supported by either the record or detailed weather data.

Members of the EC panel were brought to Irvine on November 20, 1980, solely to entertain the Staff's questions. The transcript of that day's session is in direct contradiction with the following Staff statement: "The ECs stated that the average lay rate established for this project included the weather they actually experienced for Alyeska construction (both normal and abnormal weather)."³⁴ In fact, the transcript summary of November 20, 1980, states at page 8 "that they didn't include anything for what they called abnormal weather...." Furthermore, they stated that they would "qualify their bids to state that they covered only normal weather." They went on to say that they would bill the client for any delays greater than two to three days in a month. They defined this as abnormal weather.

In developing this event, Alaskan Northwest considered deviations from average weather (1976 was an average year and provides the basis for the EC weather experience) as abnormal weather. Any weather that is worse than 1976 will be either built into the EC's bid or be passed through to Alaskan Northwest as part of the bid qualification procedures or via a force majeure clause.

In view of the weather data available, the record, and significant Alaskan construction experience, the sponsors consider that the filed values are the best available assessment of the impact of weather on construction.

b. Terms and Conditions of the Project Labor Agreement (PLA) (Event No. 12)

It is difficult to understand Staff's logic and inconsistent treatment of this event. On one hand, it includes the full value of the event in its suggested values. On the other hand, it subtracts part of it out when Staff makes its adjustment for "EC Risk." This is an even more glaring example than Event 15 of Staff's misunderstanding of how risks identified will become actual costs for which either the EC's or Alaskan Northwest will be responsible. Potential cost impacts cannot vanish.

³³ Staff has derived a maximum impact of \$24 million. This translates to eight days of delay based upon a spending rate of approximately \$3 million per day.

³⁴ The EC's definition of weather that would stop work was -35°F, white out conditions, and winds in excess of 20 miles per hour for welding depending upon the direction of the wind with respect to the position of the welders.

As with all of Staff's divisions between EC and Alaskan Northwest risk, Staff's allocation of 50 percent of the risk of this event to the ECs is questionable. The transcript of November 17, 1980, at pages 37 and 38 states that the PLA will probably "be in place at the time of going out for bids. So in effect, the damage on this point might well be done by the time the Execution Contractors signed up." This demonstrates that the risks for this event will accrue to the Sponsors and will be reflected in the EC bids. In summary, the filed value should be included in the Center Point because Staff (a) is in agreement with the filed value and (b) has improperly divided the risk between Alaskan Northwest and the EC's.

c. Events No. 13, 14, 19, 21, and 23: Strikes and Slowdowns, EC Quality Assurance and Quality Control Problems, Domestic Markets for Construction Materials, Domestic Markets for Construction Equipment and Domestic Markets for Craft Labor/Foremen

The same criticisms of Staff's approach can be applied to these events. However, for these events there is no discussion of values, there is only an assumption of 100 percent EC risk. Furthermore, Staff assumes that these events will only impact pipeline construction costs. It uses pipeline costs as a basis to establish the value of EC risk despite the fact that these events are not limited to pipeline construction.

The transcripts for November 17, 1980 and November 20, 1980 demonstrate that the EC's will not bear 100 percent of the risk of these events. With regard to strikes and slowdowns (Event 13), the transcript states that "in no event did the project sponsors expect that they would have no exposure to costs associated with strikes and slowdowns.³⁵ Regarding EC QA and QC problems, the values established by Alaskan Northwest included scenarios requiring continuous or multi-tiered inspection.³⁶

Events No. 19, 21, and 23 are primarily project wide EC risks. However, the EC's current evaluation of their contingency is based upon current market conditions. When they actually bid, they will be looking at the real market conditions at that time. The values included by Alaskan Northwest for these events reflect an estimate of market conditions during construction which are likely to be reflected in the EC bids.

Market conditions will be tight during the actual construction period. This will cause EC's to hire fewer trained personnel, use a greater mix of used or poorer quality equipment, etc. These factors will cause problems above and beyond the basic increase in costs (no unit price cost increases were included in these events because they are covered by the IROR inflation adjustment mechanism). These ripple effects are the costs that the ECs will include in their bids based upon market conditions when they submit their bids.

In view of the above, Staff's arguments must be rejected.

³⁵ Transcript of November 17, 1980 at 38.

³⁶ Transcript of November 20, 1980 at 13.

III. DESIGN ISSUES/COST ESTIMATE

A. Introduction

Staff urges that if any of its "alternative" designs are ordered the CCE be reduced to the extent of any net savings realized. Alaskan Northwest rejects this approach. It not only evitiates Order Nos. 31 and 31-B by removing any incentives to adopt cost saving design changes, incentives which will inure to the benefit of the ANGTS ratepayer, but significantly increases the risks to the Sponsors.

As Staff admits, Order Nos. 31 and 31-B do not require cost reductions to the CCE resulting from later approved design changes not known to the Sponsors at the time of certification. The underlying rationale behind this decision is to give the Sponsors "...a strong incentive to propose design changes that reduce the ultimate costs to consumers..." (Order No. 31-B at 41). The Commission quite properly recognized that absent this incentive the Sponsors may not propose cost saving design changes -- a result which would contravene the public interest by increasing capital costs without a commensurate reduction in the return to the Sponsors. An example of this result and the net effect of Staff's proposal is seen supra in the second schedule at page six and the text on page seven of our comments. That schedule demonstrates that as total project costs fall, the rate of return increases and the total dollar cost of service decreases, as does the per unit cost of gas. Therefore, the higher the rate of return earned, the lower the cost of service to the consumer, since the cost of service is significantly more sensitive to total cost reductions than to rate of return increases.

Staff's rationale for eliminating the Sponsors' incentive to achieve a higher rate of return and a lower cost of service is premised upon two faulty assumptions: (1) Order Nos. 31 and 31-B did not contemplate the existence of "out-standing design alternatives for which costs are unknown...at the point the CCE and CP are determined..."; and, (2) Alaskan Northwest has agreed to Staff's approach for certain selective issues in any event and, therefore, such approach should be extended to all design alternatives for the sake of consistency.

Staff's first assumption defies logic. The Commission, in Order Nos. 31 and 31-B, clearly recognized that the CCE would not, and could not, be based upon a final design. Staff's suggestion that no design alternative exist at the time of Commission certification demonstrates an ignorance of the realities of this project. In any pipeline project, especially one of this magnitude, design changes will occur until construction is completed; and, it is simply unrealistic to expect the Sponsors to anticipate and cost out every conceivable design alternative prior to certification. Additionally, the Sponsors cannot place at risk the costs associated with preparation of a final design -- an amount in excess of \$1.5 billion -- without a final certificate approving a CCE and Center Point.

Staff's second assumption is factually incorrect. With respect to the costs of tunnelling rather than traversing Atigun Pass, the potential utilization of a crack arrestor approach, and the costs of the communication system design, Alaskan Northwest informed Staff it would agree to adjust the CCE to reflect actual costs -- whether higher or lower than those approved in the base estimate -- in establishment of the Cost Performance Ratio, subject to the approval of both

the Commission and the OFI.³⁷ Conversely, although Staff would require a reduction in the CCE to reflect the net savings of any design changes, Staff does not advocate that the CCE be increased where adoption of a design alternative -- increases costs.

The difference between the above two approaches is both obvious and significant. And while Alaskan Northwest is willing to adjust the CCE to reflect actual costs for these three items in an attempt to reach a settlement of certain issues with Staff, it would be remiss if it did not mention that the ratepayer is far better off if the provisions of Order Nos. 31 and 31-B are followed without deviation.³⁸

Alaskan Northwest also agreed to substitute actual costs for those three potential design changes because it recognizes that these three areas remain open as to design -- that is Alaskan Northwest is willing to modify its design in these areas, if necessary. Because there has been no significant alternate design work done in these three areas, the potential costs of the alternative designs are currently unknown. However, the remaining "alternative" designs suggested by Staff have neither been proposed nor recommended by the Sponsors given their confidence in the current design for these areas. As will be explained below, the remaining so-called "alternative" designs identified by Staff in its comments are not technically feasible and/or would not result in cost savings, notwithstanding Staff's assertions to the contrary.

1. Project Directorate

a. Third Party Monitoring Costs

As previously reported in Alaskan Northwest's and Staff's December 15 submissions, Alaskan Northwest has agreed that the Cost Performance Ratio would not be adjusted to reflect government monitoring costs incurred because of the fault of Alaskan Northwest. However, third monitoring costs should not be automatically disallowed from the Cost Performance Ratio upon an allegation that they were occasioned by the fault of Alaskan Northwest. Alaskan Northwest must first have the opportunity to demonstrate that it was not at fault before any such costs may be disallowed.

Staff recommends that the \$203.4 million in costs for the State of Alaska be excluded from the CCE. (Staff Comments at 31). We restate our position that these costs must stay in the CCE although we are not in a position to verify their accuracy. However, estimated costs must be replaced by actual costs for determining the cost performance ratio to avoid penalizing the Sponsors for costs beyond their control.

Should a court decision or similar action invalidate the reimbursement terms of Federal or state statutes, the Projected Capital Costs should be reduced only if and to the extent that Alaskan Northwest actually benefits from such decision or action.

37 See Report of Alaskan Northwest Natural Gas Transportation Company, on its understandings of Agreements received with the Commission Staff regarding the Certification Cost and Schedule Estimate (filed December 15, 1980).

38 See the second schedule on page six supra.

b. Pre-Certification Costs

Staff and Alaskan Northwest agree that \$130.344 million of pre-certification costs should be included in the CCE, provided that the CCE will be adjusted to reflect the actual amount of such costs approved by the Commission in Docket No. CP78-123, et. al. Staff further states, however, that any contingency applied to Project Directorate should not apply to pre-certification costs. In fact, a contingency has never been applied to such costs. The contingency workpapers show that no encoding values were developed for such costs. (See Vol. 33, p. 48, Activity 8-00-019).

c. EEO Compliance and Minority Training Program

Alaskan Northwest submitted its affirmative action plan to OFI on December 16, 1980. Training plans have yet to be developed, however, to comply with the DOI Right-of-Way Grant. Furthermore, the State of Alaska has not specified what training requirements it may impose. By its recommendation that estimates for the costs of such hiring and training programs be filed within 30 days of their approval by OFI, the Staff now recognizes that it would have been impractical to include realistic estimates for these costs in the CCE and that such costs are more appropriately reviewable by OFI. Because OFI must approve any affirmative action or training programs, it is in the best position to analyze and approve the costs of such programs. Approved training costs should be treated as design changes pursuant to Condition No. 9.

2. Atigun Pass Tunnel; Yukon River Crossing; Communications Systems

The Staff stated that Alaskan Northwest has agreed that if it adopts alternatives other than the designs contained in the filing for these items, their actual costs will be substituted in the Project Capital Costs if the alternatives prove to be less costly than the present design. Alaskan Northwest clarifies that it understands the agreement to be that the actual costs of these alternatives will be included in Project Capital Costs whether the actual costs are greater or less than the costs included in the CCE, providing that OFI approves the alternative as a design change and permits inclusion of the actual costs in Projected Capital Costs. However, as previously stated Alaskan Northwest believes that the costs included in the CCE for these items should be handled in accordance with the provisions of Condition No. 9 of Order No. 31-B.

3. Thermal Workpad

Alaskan Northwest believes the structural workpad design contained in the CCE is adequate to protect the haul road and the Alyeska fuel gas line from thaw settlement problems that could be occasioned by construction of the gas pipeline. However, Alaskan Northwest recognizes that a thermal workpad could be required on a site-specific basis. While workpad costs will go up in this event, Alaskan Northwest does not believe the additional costs will exceed the \$73 million specified by Staff and will likely be less.

Alaskan Northwest submits that the use of a thermal workpad is a design change and can be handled in accordance with the provisions of Condition No. 9 of Order No. 31-B.

4. Reduction of Workpad in Spreads 5 and 6

The Staff has mistated Alaskan Northwest's design criteria for workpad. Contrary to Staff's assertions that "[t]he design basis for this workpad was stated to be 700 passes of an 85 ton haul vehicle during the spring thaw" (Staff comments at 33), the criteria contained in the filing are that the workpad must be capable of supporting 700 passes of a 35 ton vehicle over three construction seasons. Thus, Alaskan Northwest has obviously not utilized "the most stringent design" for workpad. In fact, our design is similar to Alyeska's and is consistent with the U.S. Army Corps of Engineer experience. In any event, any changes in workpad design would be a detailed final design step that should be treated in accordance with Condition No. 9.

5. Ambient Temperature Pipeline in Spreads 5 and 6

Because Alaskan soils are characterized by the presence of continuous and discontinuous permafrost, it has long been recognized that the Alaska segment of the ANGTS would be a chilled gas pipeline in order to avoid thaw settlement problems. Thus, the President's Decision found as follows:

All of the pipeline in Alaska and the first 41 miles of pipeline in the Yukon lie in the continuous and discontinuous permafrost region. This section will be operated in a chilled state (i.e., below 32°F.) to prevent degradation of the permafrost regime³⁹.

The geotechnical data concerning frozen soil conditions along the Right-of-Way, including numerous borehole samples, developed or gathered by Alaskan Northwest confirm the prudence and necessity of a chilled pipeline design for the entire Alaska segment because significant amounts of ice-rich soils are found in all spreads. In particular, Spreads 5 and 6 contain 30 to 50 percent permafrost. A warm, or ambient temperature, pipe traversing such soils would thaw the permafrost causing loss of soil support and settlement of the pipe. Differential settlement would place excessive strains on the pipe threatening its integrity and increasing the risks of breaks in the line. Because the mitigation of thaw settlement on spreads 5 and 6 would require above ground construction, the costs for an ambient temperature pipeline on those spreads would be considerably higher than Alaskan Northwest's cold pipe design and would be similar to the costs of the alternative embankment design submitted to the Delegate and Division Director on November 11, 1980.

In addition, as explained in the letter attached hereto as Appendix A, Staff's ambient temperature proposal would, if adopted, cause significant difficulties for the Canadian section of the ANGTS.

While Staff purports to show construction and operating cost savings as justification for an ambient temperature pipeline, it stops short of actually recommending the adoption of an ambient temperature pipeline design. Moreover, the

³⁹ Executive Office of the President, Energy Policy and Planning, Decision and Report to Congress on the Alaska Natural Gas Transportation System 14 (September 1977).

claimed 40 percent cost savings for refrigeration fuel is insignificant when compared with the total throughput of the system. It must be remembered that only two stations are located in Spreads 5 and 6. A 40 percent savings in fuel at these stations represents a savings of only 0.16 percent and 0.14 percent, respectively, of total throughput at the two stations.

6. Less Conservative Frost Heave Mitigation

The fact that the benefit to the ratepayer from a reduction in rate base resulting from less insulation requirements would more than offset any gain in rate of return for Alaskan Northwest is illustrated on pages six and seven of these Reply Comments.

7. Temporary Facilities

In order to reduce costs and minimize adverse environmental impacts Alaskan Northwest has chosen to purchase existing construction camps from Alyeska. Thirteen of the Alyeska camps will be utilized at their present locations. Rehabilitation of these camps will be necessary prior to their use. For example, while the existing housing units are structurally in good condition, some items needing repair or replacement include roofing, insulated ceiling panels, wall and floor covering, laundry washer and dryer units, water closets, lavatories, and stall showers. Utility systems will be tested and repaired where necessary. While shops, warehouses, and utility buildings appear to be in satisfactory condition, it is anticipated that some major mechanical equipment items will be replaced, such as incinerators, sewage treatment units, sewage lift stations, pumps, and power generators.

Alaskan Northwest also will purchase from Alyeska three camps that will be required to be moved and relocated along the portion of the pipeline running from Delta Junction to the Canadian Border. The CCE includes an amount for the revegetation of the sites from which the three camps will be removed. Because these camps will be moved onto new sites, site preparation will be necessary, which will include a pad, flow control management reservoir (or other method for wastewater disposal), five-day emergency wastewater holding pond, bulk fuel depot, water supply source, and utility distribution systems.

The compressor station construction camps, situated next to the seven compressor station sites, will be constructed using eight surplus Alyeska pump station construction camps. Certain of these facilities must be moved and these will be disassembled, transported to the new sites, erected, and renovated for the construction period.

In addition to the construction camps already discussed, due to the rerouting of the pipeline required by order of the Department of Interior, currently ongoing field programs that had been anticipated to use existing Alyeska pump station camps must now be housed in added fly camps obtained for this purpose. The amounts for the use of the fly camps, plus certain other additions to the temporary facilities estimate, have been included in the CCE.

The use of existing camps and the placing of new camps has been based on the following criteria: implementation of the spread management concept; minimization of travel time by the construction work force; minimization of the number of camps necessary in order to avoid adverse impacts to the environment by multiple concentrations of new population centers; minimization of the cost of support facilities; and, maintenance of construction progress through the elimination of crew accommodation constraints. --

The total costs for the acquisition, renovation, and relocation of the 23 camps has been estimated at \$361.7 million. Of this amount, \$95.7 million is the estimated cost of acquisition of the Alyeska camps.

Staff has obtained materials from the TAPS proceeding (Docket No. OR78-1) from which it has attempted to derive the cost, in 1980 dollars, of new camps, and then compare this figure with those of Alaskan Northwest. While Alaskan Northwest does not have the TAPS figures that have been made available to Staff, we can make certain observations about the new camp cost approach utilized by Staff. First, certain of Alyeska's camps were constructed in 1969 and 1970, others in 1974. Accordingly, the "April 1977" cost escalated by Staff to 1980 dollars does not truly represent the cost in 1980 dollars. Second, the Alyeska camps were constructed under entirely different standards than those currently in effect. New health, safety, and environment regulations have been promulgated by the State of Alaska which would cause a significant increase in the costs of constructing new camps today vis-a-vis the costs experienced by Alyeska. Third, if new camps are utilized there would be significant delays in project scheduling because of the time required to obtain needed permits for new sites. Simply stated, the camps could not be in place in time to begin construction as currently scheduled. None of these factors have been considered by Staff in its comments.

Alaskan Northwest has calculated the cost of new camps in January 1980 dollars to be \$485.3 million, which is \$123.6 million more than that required for the planned acquisition and renovation of the Alyeska camps. This figure includes the costs of the additional field programs required due to the new location of camps. Additionally, this figure assumes that new camps do not cause any slippage in the construction schedule although slippage would be likely. The same \$485 million cost estimate for new camps has also been developed by escalating the recollections of persons who worked on Alyeska as to the costs of constructing the Alyeska camps to 1980 dollars and taking into account the costs of new state permitting requirements (estimated to be \$50 million). In view of the significant cost differential, Alaskan Northwest requests that the costs included in the CCE for the purchase of existing construction camps be approved, provided, however, Alaskan Northwest has stated previously that the contingency for acquisition of the camps can be removed if the CCE is adjusted to reflect the actual costs of purchasing the camps and certain geotechnical information from Alyeska.

Staff also states it cannot reconcile the 15,300 bed camp facilities proposed by Alaskan Northwest with the purchase of 15,800 bed camp facilities from Alyeska. First, the acquisition cost will be the same regardless of whether the number is 15,300 or 15,800. While Alaskan Northwest requires only 15,300 beds, it cannot split a camp in half to obtain the exact number of beds. Additionally, some of the beds acquired will not be utilized because some sleeping areas will be converted into kitchen and office areas.

8. Estimate Borrow Quantities - Aggregate and Common

The Staff erroneously equates the 30 percent volume allowance for shrinkage of aggregate contained in the base estimate with Center Point Event No. 8, "Determination of Proximity of Aggregate after Final Design." Shrinkage covers the loss of aggregate between the gravel pit and the work site. For example, some gravel will always be blown or spilled off of the trucks hauling the gravel. Shrinkage is a known, predictable occurrence in construction work. Experience teaches that approximately 30 percent of the in-site aggregate is lost during excavation, loading, hauling, unloading, placement, and compaction. Therefore, the amount of aggregate quantities in the estimate must be increased by this percentage to offset such shrinkage. Staff does not dispute this.

Event No. 8, however, does not reflect any uncertainty in the quantities of aggregate necessary for construction. Event No. 8, as its name implies, is concerned with uncertainty in costs associated with hauling the aggregate from the gravel pits to the right-of-way. Alaskan Northwest must obtain permits to mine the aggregate. Event No. 8 is designed to cover the risks of increased hauling costs because permits are not issued for sites nearest the right-of-way or optimally located pits do not contain enough aggregate. It does not cover the risk that more aggregate is necessary. Thus, the 30 percent allowance covers a normal, predictable cost for aggregate, while Event No. 8 covers the impact of unexpected transportation costs.

Staff also claims that there are several discrepancies in borrow quantities between the civil alignment sheets and the estimate workpapers. In fact, the alignment sheets and workpapers are not inconsistent. The borrow quantities shown on the alignment sheets were derived by the civil engineers from typical cross-sections. The cost estimators added borrow quantities to the civil engineering estimate to compensate for expected variations in the ditch wall that results from back-hoe ditch excavation techniques. The cost estimators had more information on the shape of the ditch and adjusted the civil engineering borrow estimate accordingly.

9. Line Pipe Specifications and Price

As in the case of alternatives to the current design, Alaskan Northwest has agreed to substitute the actual costs of a less tough pipe with mechanical crack arrestors for the current tough pipe design assuming the alternative design approach is mandated. Again, we note that the actual costs for an alternative design will be substituted regardless whether they constitute a reduction or an increase in costs, providing the design and costs are approved by the Commission and OFI. However, Alaskan Northwest believes this would be a design change and should be treated in accordance with Condition No. 9.

Alaskan Northwest believes its method of estimating the line pipe price fully comports with the Commission's instructions in Order No. 31 to develop a realistic cost estimate that is neither overly optimistic or overly pessimistic. (Order at 46). We cannot know now where the line pipe will come from. We do know that it will come from more than one source. Therefore, an average of bids from likely sources presented the most reasonable approach.

Although we agree with Staff that the assumption on percentage of foreign and domestic pipe (5/6 and 1/6, respectively) should probably have been used in assessing freight cost effects in the engineering estimate, Center Point, and contingency rather than the 75 percent foreign and 25 percent domestic pipe assumption utilized, we believe that the cost effect of reconciling the 75/25 split with the 5/6 / 1/6 split is de minimus.

10. Compressor and Metering Stations - Refrigeration

Staff's position on refrigeration requirements displays a total lack of understanding of our refrigeration design. First, contrary to Staff's statement, refrigeration capacity in the CCE has not increased by 25 percent from the March 1977 estimate. The total refrigeration tonnage specified in the CCE has actually decreased 27 percent, or from 73,000 tons at 8 compressor stations in the 1977 estimate to 57,000 tons at 7 compressor stations in the CCE.

Second, the design in the CCE does not provide for 100 percent refrigeration capacity backup. In fact, there is no capacity backup. Although the design calls for multiple refrigeration units at each station (Exhibit K, Vol. 2, p. K-0-2), the additional unit at each station is not a backup unit. During peak summer months, all of these refrigeration units will be operating. Staff may be confused because the estimate provides for two units at each station. For operating flexibility, the July 1, 1980 design contains two 10,000 BHP units rather than a single large unit rated at 20,000 BHP. For example, during non-peak periods, it is more efficient to operate one 10,000 BHP unit at a station rather than operating a 20,000 BHP unit at half capacity.

Third, we disagree completely that the pipeline can be safely operated for up to 20 days or more without refrigeration. If refrigeration is out at a station, the gas will exit that station at a temperature significantly above 32°F. Ice in the frost bulb downstream from that station will immediately begin to thaw, releasing abnormal amounts of water into the soil, resulting in erosion problems and settlement of the pipe. As the ground settles, the pipe will strain and the integrity of the pipeline will be jeopardized. Significant thaw settlement will occur well before the end of the 20-day period which Staff believes acceptable.

Finally, it is a totally meaningless comparison for Staff to state that "compressors are not spared," because, as we have previously shown, the design does not provide for backup refrigeration capacity at each station. Moreover, Staff is in error when it suggests that gas can be heated at each compressor station. As our filing clearly shows, gas heaters will be provided only at Compressor Station No. 2 and No. 4. (See, e.g., Exhibit Z-9.0, Vol. 6, p. 2-4).

11. Environmental

Both the route proposal in the July 1, 1980 filing through the Fairbanks area and the route now required by the DOI ROW Grant cross similar terrain with similar levels of biological productivity. Northwest Alaskan has examined both routes and has concluded that both represent comparable levels of environmental impact. Specific aspects of the two routes are listed below:

a. Fisheries

Both routes offer similar types of fish habitat. The number of waterbodies crossed is increased with the required route (27 versus 21), but the number of those waterbodies which are known to be fish sensitive is decreased (9 versus 16). Multiple crossings of single creeks is drastically reduced with the required route -- that route crosses Moose Creek only once, while the old route crossed Moose Creek three times, and French Creek five times. Major fish habitats crossed by both routes include Treasure Creek, Moose Creek, Knokanpeover Creek, and the Chena River. Fisheries investigations were conducted on the required route as part of the fall 1980 field studies. Of the seventeen waterbodies investigated, fish presence was noted in five. Field investigations will continue into the spring of 1981.

b. Endangered Species

There is a peregrine falcon nest site at Grapefruit Rocks near mile 39 of the Elliott Highway. The original route, at old NWA MP 425, passed within approximately 1.5 miles of this nest site. The new route, closer to the Elliott Highway, passes within approximately 1.0 miles of the nest area. This nest area is, however, located on the opposite side of a hill from the Elliott Highway. Alaskan Northwest is of the opinion that the closer proximity, when viewed in the context of activities along the Elliott Highway, is an acceptable location. On these birds, Elliott Highway Activities, our consultants Roseneau and Bente (1980) report:

In 1979, the pair of peregrines successfully fledged three nestlings even though intense construction activities, including the regular detonation of large amounts of explosives, took place about 0.4 mile away (Roseneau and Bente 1979, 1980). In 1980, what was probably the same pair of peregrines returned, nested at a new location about 0.7 mile farther from the highway and, again, successfully fledged 3 nestlings (Roseneau and Bente 1980).

The required route passes within about 1.4 miles of a historical peregrine falcon site (P-84) on the Chena River. This nest has apparently not been used since the early 1960's. The presence of this nest poses a slightly increased probability of peregrine-pipeline interaction as compared to the old route. A goshawk nest, active in 1979, on Moose Creek Bluffs (Roseneau and Bente 1979) near the old route, will not experience the potential for pipeline-related impact as a result of the new route. Raptor nest surveys will be conducted over the new route.

c. Birds

While both routes exhibit waterbird habitat, the new route crosses a greater amount of wetland area than the old route. The new route crosses approximately twelve miles of flat terrain between the Little Chena River and Moose Creek, which includes the Potlatch Ponds area identified as a waterfowl nesting area by Hemming and Morehouse (1976). The old route crossed near a spring waterfowl concentration area at the Chena Floodplain Project (Richie, 1980). Summer and fall use of this area by waterbirds was not important (Richie and Hawkins, 1980). Upland game birds should be slightly more abundant along the northerly portions

of the new route than along the old route because the new route is further from areas of intensive human activity. Neither route, however, is known to traverse any concentration area for upland birds, and no significant difference in potential impact on upland birds is expected between routes. ---

d. Mammals

The potential impact of the new route on big game may be less than that of the old route because the old route passed through a high density moose wintering area (Hemming and Morehouse 1976). No such area has been identified along the new route, although moose summer range is of fairly good quality near the Little Chena River (R. A. Rausch, personal communication). Beaver are known to be abundant at the new route's crossing of Smallwood Creek (G. Halsey, personal communication).

e. Cultural Resources

The old route would have impacted the Chugwater archaeological site (FAI-035) at Moose Creek Bluff and would have also crossed the Davidson Ditch historic feature (LIV-073). The new route will avoid the Chugwater site at Moose Creek Bluff and any other known prehistoric cultural resource. The new route will, however, still cross the Davidson Ditch historic feature. The new route will be field investigated during the 1981 summer season. The field survey will identify any cultural resource not presently known along the new route.

f. Air Quality, Wastewater, Solid Waste, and Oil/Hazardous Materials

No camps or compressor stations are affected by the new route. Support systems for solid waste and wastewater from the construction spread itself will, of course, shift from the original to the new route, but will not change in scale or extent.

g. Erosion Control and Revegetation

As similar terrain is crossed by both routes, no changes are expected in these aspects.

h. Visual Resources

The new route is somewhat more remote from public roads, and presents less visual impact than does the original route. This is especially true with the avoidance of the crossing of Moose Creek Bluff on the Richardson Highway.

12. Labor Cost Inflation Index

While the Commission rejected the inclusion of actual labor cost inflation in the Cost Performance Ratio, the Commission has never passed on whether inflation adjustment included in the Project Labor Agreement could be used as a measure of inflation. Moreover, the Commission in Order No. 31-B expressly invited the Sponsors to suggest alternative methods for measuring inflation on labor costs during construction. (Order at 29.) We believe that establishment of an inflation index in advance of negotiation of the PLA will weaken rather than strengthen our bargaining position. The proper labor cost index component to the composite

index for the inflation adjustment mechanism should be that index or indices which are explicitly defined in the terms and conditions of the PLA.

CONCLUSION

In developing the CCE and Center Point the Sponsors strictly adhered to the Commission's directive that a realistic cost estimate be presented for approval, one that provides the Sponsors the opportunity to earn an incentive rate of return, while minimizing cost overruns, thereby lowering the overall cost to the consumer. Contrary to this directive the Staff urges approval of an unrealistic estimate and changes to Orders No. 31 and 31-B which not only would destroy the incentives recognized by the Commission as necessary to "...provide just and reasonable compensation for investors so that sufficient capital may be attracted to finance the project..." (Order No. 31 at 22), but would also penalize both the Sponsors and the ANGTS gas consumers. Staff's arbitrary and unsupportable reductions in the contingency and Center Point values are without support and cannot be accepted. Accordingly, the IROR values filed by Alaskan Northwest -- a CCE of \$8,178 million including contingency and a Center Point of 1.282 -- should be recommended to the Commission for approval.

Respectfully submitted,

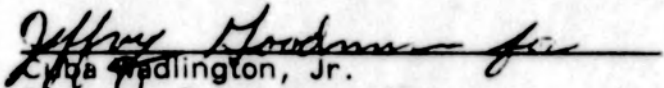
Cuba Wadlington, Jr. (JW)
Cuba Wadlington, Jr.

Director, Regulatory Affairs
Northwest Alaskan Pipeline Company
1120 20th Street, Suite S-700
Washington, D.C. 20036

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official restricted service list compiled by the Secretary in Docket No. CP80-435, in accordance with the requirements of Section 1.17 of the Rules of Practice and Procedure.

Dated at Washington, D.C. this 22 day of December, 1980.


Jeffrey H. Wadlington, Jr.
Director, Regulatory Affairs
Northwest Alaskan Pipeline Company
1120 20th Street, Suite S-700
Washington, D.C. 20036

FOOTHILLS PIPE LINES (YUKON) LTD.

G.B. LIPSETT VICE PRESIDENT,
ENGINEERING AND ENVIRONMENT

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December 19, 1980

NORTHWEST ALASKAN PIPELINE CO.
One La Fayette Centre
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WASHINGTON, D.C. 20036

Attention: Mr. Darrel Mackay
Vice-President Regulatory
and
Governmental Affairs

RE: Alaskan Northwest Natural Gas Transportation Company
FERC Docket No. CP 80-435

Dear Darrel:

It is my understanding that the FERC staff has proposed, in the above-referenced proceeding, that Alaskan Northwest alter its present plans to operate the entire Alaskan segment of the ANGTS chilled. Instead, Staff recommends that the portion of the line "extending from the discharge of Compressor Station 13 (on Section 5) to the Canadian Border" be operated at "ambient temperature." (Commission Staff Comments, filed in the above-referenced proceeding on November 7, 1980, at 5). Staff maintains that such a change is "technically feasible" and would, if adopted, bring about substantial "cost savings." (*Id.* at 5 and 6). You and your staff are obviously uniquely qualified to comment upon the technical feasibility and economic impact of the staff's proposal insofar as the Alaskan segment is concerned. To avoid any possible confusion, however, we wish to make it clear that adoption of such an approach would necessitate significant design modifications, with resulting increased costs, on the South Yukon segment of the line in Canada.

Foothills' present design assumes that the gas will be delivered chilled at the Border by Alaskan Northwest. Foothills does not plan to install any refrigeration capacity in the South Yukon. Nevertheless, the line will operate chilled from the Border to the first Canadian compressor station, located about 64 km from the Border, as a result of the temperature of the gas when delivered. We estimate

that approximately 13 km of that 64 km segment will require frost heave mitigation. Since the gas will flow at a temperature below 0°C, thaw settlement is, by definition not now a concern on that segment.

If the staff's "ambient temperature" proposal is adopted, the gas will, contrary to present assumptions, obviously not be chilled when delivered at the Border. There appear to be two approaches available to Foothills in order to deal with such a change in plans. First, Foothills could simply abandon its present plan to operate the line chilled for the first 64 km of the South Yukon segment. That approach would, by definition, eliminate frost heave as a concern. Nevertheless, because the gas would flow at a temperature above 0°C, thaw settlement would become a concern in those locations along the route where thaw susceptible soils are present. For obvious reasons, Foothills has not undertaken definitive studies to identify the precise locations of thaw susceptible soils along the first 64 km of the South Yukon segment. We believe, however, that approximately 54 km of that segment is thaw susceptible and would, therefore, require implementation of thaw settlement mitigation measures. Thus, the staff's "ambient temperature" proposal, would eliminate 13 km of frost heave mitigation in the Yukon, but add approximately 54 km of thaw settlement mitigation, for a net increase of approximately 41 km of thermal mitigation.

As you know, both frost heave and thaw settlement result from thermal interaction between the pipeline and the surrounding soils. Because the cause is similar, the range of solutions to the problems is similar, consisting primarily of various techniques to insulate against thermal interaction between the pipeline and the native soils and/or to replace the native soils with select backfill not subject to heave or settlement. As a rule of thumb, we estimate that the costs of such mitigation measures are at least approximately \$2-3 million/km, depending upon site specific circumstances. Using this rule of thumb, and recognizing that a site specific design and cost estimate is not available, we estimate that the extra 41 km of thermal mitigation which the staff's "ambient temperature" proposal would add to the South Yukon segment, would increase our costs on that segment by approximately 80-120 million.

As an alternative to simply abandoning plans to operate the line chilled in the South Yukon, Foothills could install refrigeration capacity at the border. Our preliminary analysis shows that, to implement this approach, refrigeration units would be added to the first Canadian compressor station, which would be relocated to the Border from its presently planned location at kilometer post 64. For operational reasons, the third Canadian station would have to be moved from its present location at kilometer post 215, to kilometer post 200. Thus, the gas would be chilled in Canada for approximately 200 kilometers, as opposed to the presently planned 64 kilometers.

Absent a definitive study, it is quite difficult to estimate accurately the cost impact of such a major design change. Cost increases, however, would fall into three main categories. First, the refrigeration units themselves would cost approximately \$25 million. Second, because the line would be chilled for an extra 136 kilometers (i.e. between kilometer posts 64 and 200), frost heave mitigation costs would increase. Third, the relocation of two compressor stations would, in and of itself, require additional environmental and engineering studies, etc. which would be costly, although at this preliminary stage we are hesitant to attempt a specific estimate.

Putting all of this together, we believe that adoption of the second alternative could increase capital costs on the South Yukon segment by \$100 million. Given present uncertainties as to the extent of the additional frost heave mitigation which would be required, and as to the base costs of compressor station relocation, the net increase could well be as much as \$200 million. In addition, of course, the installation of refrigeration units on our line would increase fuel use in the Yukon once operations begin.

I hope this material is helpful to you. If you have further questions, please do not hesitate to contact me. In that regard, you should be aware that John Ellwood and I conveyed all of this information to Messrs. Hart and Roddy of the FERC staff, and responded to all of their inquiries about it, during a conference call on December 12, 1980.

Best regards,

G.B. Lipsett

GBL/bt

UNITED STATES OF AMERICA
Before The
FEDERAL ENERGY REGULATORY COMMISSION

ALASKAN NORTHWEST NATURAL
GAS TRANSPORTATION COMPANY

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DOCKET NO. CP80-435

REPORT OF ALASKAN NORTHWEST NATURAL GAS TRANSPORTATION
COMPANY ON ITS UNDERSTANDING OF AGREEMENTS REACHED WITH
THE COMMISSION STAFF REGARDING THE CERTIFICATION COST
AND SCHEDULE ESTIMATE

To: John B. Adger, Jr.
Alaskan Delegate to the Commission

Richard Berman, Director
Office of Audit and Cost Analysis
Office of the Federal Inspector

Pursuant to the request of the Alaskan Delegate and the Division Director in the above-referenced docket, the Commission Staff filed comments on November 7, 1980 setting forth its tentative position on various matters addressed in the technical conferences held pursuant to the Commission's August 1, 1980 order. On December 8, 1980, the Commission Staff and representatives of Alaskan Northwest met to determine whether agreements could be reached on any of the tentative Staff positions. 1/ The following reflects Alaskan Northwest's understanding of the discussions at this conference with respect to each of the 22 tentative Staff positions set forth in Staff's November 7, 1980 comments:

1. Project Directorate Estimate Issues

The Commission Staff and Alaskan Northwest agree that \$75.2 million of the \$278.6 million estimated for third party monitoring costs, which represents that amount required by Federal and Alaska

1/ Also in attendance at this conference were representatives from the State of Alaska and Foothills Pipe Lines (Yukon) Ltd.

statutes, should remain in the base CCE for approval by the Commission. However, in accordance with Alaskan Northwest's request in its July 1, 1980 filing the CCE will be adjusted to reflect actual third party monitoring costs be for purposes of establishing the cost performance ratio, provided that any such costs directly caused by Alaskan Northwest would have to be reviewed and approved by the OFI.

Alaskan Northwest proposes that the remaining \$203.4 million in socio-economic costs estimated to be reimburseable to the State of Alaska, and currently included in the CCE, remain in the CCE until the Commission decides on their allowability. Again, the cost performance ratio will be adjusted to reflect actual State of Alaska costs incurred. The Commission Staff does not agree with this position and will request that these amounts be removed from the CCE until the Commission rules that such costs are allowable.

Finally, the Commission Staff and Alaskan Northwest disagree on the proper treatment for costs yet to be determined for required minority training programs and an EEO compliance program. Alaskan Northwest's position is that since the OFI has not yet approved Alaskan Northwest's EEO program and Alaskan Northwest has not yet established the training programs required by the December 1, 1980 ROW grant such costs cannot be realistically ascertained at this point in time. Alaskan Northwest submits that the proper approach is for the submission of the costs of such programs to the Office of the Federal Inspector for approval as a design change in accordance with the procedures of Condition 9 of Orders Nos. 31 and 31-B.

2. DOI Reroute

The Commission Staff does not now question the reroute itself or the costs associated therewith. 2/

3. Embankment Construction Mode

The Commission Staff does not now question the cost estimate for the embankment mode set forth in Alaskan Northwest's November 11, 1980 Embankment and Snow Road/Pad Report.

2/ Staff's environmental questions concerning the reroute are dealt with in Item No. 22.

4. Snowpad - Snow Route Construction

The Commission Staff agrees with Alaskan Northwest's position in its November 11, 1980 Embankment and Snow Road/Pad Report that snowpad and snowroad construction should not be utilized. The Commission Staff further agrees with Alaskan Northwest's cost assessment for this construction mode.

5. Atigun Pass Tunnel

The Commission Staff and Alaskan Northwest agree that in the event Alaskan Northwest is required to utilize a tunnel alternative the costs currently in the CCE for traversing Atigun Pass will be replaced by those costs approved by the OFI for tunneling Atigun Pass.

6. Thermal Workpad

Alaskan Northwest recognizes that some use of thermal workpads may be required by the State and the owners of Alyeska and that any such use will increase costs above those in the current filing. The amount of thermal workpad required will depend upon negotiations with the State and the owners of Alyeska. Alaskan Northwest is currently analyzing Staff's estimated cost increase of \$73 million for the use of thermal workpads for Sections 1 through 4. Any costs associated with the required use of thermal workpads are costs appropriately included in the CCE.

7. Aerial Crossing of Yukon River

Both the Commission Staff and Alaskan Northwest consider the costs associated with an aerial crossing to be de minimus. Therefore this matter is now moot with respect to the establishment of a CCE for Commission approval.

8. Reduction or Elimination of Workpad in Spreads 5 and 6

Both the Commission Staff and Alaskan Northwest disagree on this issue and will set forth their respective positions in comments to be filed with the Delegate and Division Director on December 15 and 22, 1980.

9. Ambient Temperature Pipeline in Spreads 5 and 6

See response to Item 8.

10. Less Conservative Frost Heave Mitigation

See response to Item 8.

11. An Increase Of One Year In Construction Schedule

The Commission Staff and Alaskan Northwest agree this is no longer an issue.

12. Communications System Design

The Commission Staff and Alaskan Northwest agree that those costs currently in the CCE for the communications design should be replaced with the costs required by the final design to be approved by the OFI.

13. New Construction Camps

See response to Item 8.

14. Pipeline Lay Rate

See response to Item 8.

15. Pipeline Construction and Contingency for Weather and Delay

See response to Item 8.

16. Ditch Gravel Quantity Error

Staff will file comments on December 15, 1980 modifying its position with respect to this issue.

17. Line Pipe Specifications and Price

The Commission Staff has no problem with the random placement of the higher toughness level of pipe.

Alaskan Northwest agrees with the Commission Staff that if a crack arrestor approach is ultimately chosen the CCE will be adjusted to reflect the costs associated therewith.

The Commission Staff and Alaskan Northwest disagree with respect to the method of estimating pipe costs and will set forth their respective positions in comments to be filed on December 15, and 22, 1980.

18. Miscellaneous Unspecified Materials

Staff will readdress this matter in its December 15, 1980 filing.

19. Compressor and Metering Station Estimate Concerns

The Commission Staff and Alaskan Northwest agree that this is no longer an issue.

20. Temporary Facilities and Service Estimate Concerns

See response to Item 8.

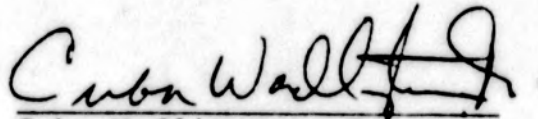
21. The Communications and Supervisory System Estimate

See response to Item 12.

22. Environmental Concerns

See response to Item 8.

Respectfully submitted,



Cuba Wadlington, Jr.
Director, Regulatory Affairs
Northwest Alaskan Pipeline Company
1120 20th Street, N.W.
Suite S-700
Washington, D.C. 20036

cc: Restricted Service List
Docket No. CP80-435

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Alaskan Northwest Natural Gas)
Transportation Company) Docket No. CP80-435

Comments Of The State Of Alaska
With Respect To The Proposed Treatment Of
Monitoring and Socio-Economic Impact Expenditures

The State of Alaska ("Alaska") offers these comments with respect to the procedure for examining Alaskan socio-economic impact assistance costs proposed by the Alaskan Delegate and the Director, Audit and Cost Analysis, Office of Federal Inspector in their July 1981 "Report to the Commission on Certification Cost Estimate and Related Incentive Rate of Return Issues for the Alaskan Segment of the Alaska Natural Gas Transportation System" (hereinafter "Adger/ Berman Report"). Alaska reserves the right to reply to any other issues raised by the initial comments of other parties.

The costs in question are proposed expenditures for socio-economic impact assistance programs by the State of Alaska and for monitoring of ANGTS by State regulatory authorities. ANGTS proposes to reimburse the State for some of these costs. The issues presented by these expenditures, as well as their nature, are addressed in full in the State's February 13, 1981, Memorandum ("Memorandum"), a copy of which (minus appendices) is attached hereto and incorporated by reference.

The Adger/Berman Report proposes that these costs be considered in a separate subproceeding which could commence immediately. Because of the issues raised and the timing of the submission, the Adger/Berman Report recommends further proceedings to develop fully the factual and legal basis for the socio-economic costs filed by Alaska in the subproceeding. The subproceeding would not only address the issues raised by staff and Alaska but would seek to ascertain federal policy on this issue.

The proposed procedure is not objectionable per se to Alaska but Alaska must raise the question whether the additional proceeding is necessary to a favorable resolution of this issue. With respect to socio-economic impact assistance,

the basic fact of the matter is that Alaska, after examining the Commission precedent and other authorities cited in the Memorandum, elected to seek reimbursement from ANGTS for only those impact assistance costs directly caused by pipeline workers and their families -- "Type I" assistance costs. These amounts are slightly less than \$20 million (1980 dollars). The balance of the impact assistance costs identified by Alaskan government officials in the State budgetary process will be borne by the State of Alaska. These costs exceed by several times the less than \$20 million that Alaska proposes for ANGTS to bear. Alaska believes that the proposed sharing of socio-economic impact costs is fair to all concerned and should be accepted by the Commission.

It is possible that the course suggested by the Adger/Berman Report may prove more complicated and time consuming than necessary.

Alaska believes therefore that there is a solid basis in the record for approving the inclusion in the cost estimate of the approximately \$20 million of socio-economic impact costs Alaska seeks from the ANGTS as well as the monitoring costs it has described. Alaska believes there is no record that would support the exclusion on a legal or factual basis of these costs.

On the other hand, Alaska questions whether it is necessary to determine overall federal policy on the issue of socio-economic impact assistance in the context of this single project. Adding national policy implications to the resolution of this issue can only add to the political visibility and consequences of the issue which may only aggravate the resolution of a relatively straightforward question.

Although the Adger/Berman Report questions the timing of Alaska's memorandum relative to the issuance of this report, the only timing question is why the Adger/Berman Report did not further address the issue. Alaska's memorandum was filed on February 13, 1981. Six months have passed since the submission of Alaska's Memorandum. Authorizing a further subproceeding may only lengthen the time needed to resolve what in the overall context of the project is not a major issue although one quite important to Alaskans.

The Commission staff has suggested that the absence of explicit statutory authority requiring the payment of these costs by the ANGTS. As Alaska has repeatedly suggested to the Commission staff, the absence of express authority could be quickly remedied by the passage of new legislation in the Alaskan legislature. Alaska has also pointed out

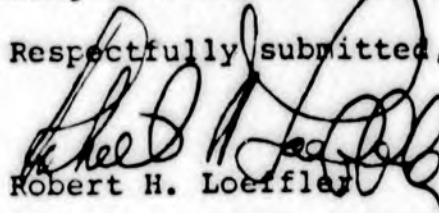
that if legislation is introduced the legislature may feel that the project should bear a far larger share of costs of the impact it will cause in Alaska. Alaska can inform the Commission that legislation is being considered that will require the ANGTS to bear socio-economic impact assistance costs. The extent and magnitude of the socio-economic costs the legislation would impose will be determined by the legislature.

Therefore, if the Commission believes that it would be a fruitful expenditure of the time of Alaska, the staff, the applicant and others to address this issue and to consider the arguments about federal national policy on this point, it will abide by the Commission's determination to have a subproceeding. Alaska believes it is clear the Commission could not enter an order excluding these costs from the cost estimate on the basis of the present record.

There is a major factual error in the Adger/Berman Report with respect to the discussion of monitoring costs. The Adger/Berman Report suggests "the State's cost estimate has changed" and the figure for surveillance costs has allegedly more than doubled. (Adger/Berman Report at p. V-7.) This is not correct. This same statement was made in the draft Adger/Berman Report. On May 19, 1981, Alaska submitted a three page letter explaining the draft report's error and asking a correction. This letter unexplicably was ignored by the final Report. In fact the 1981 surveillance costs are somewhat lower than the July 1980 numbers and the misimpression that the numbers have doubled is due to the format in which they were presented by the Northwest application.

Accordingly, Alaska respectfully suggests that the Commission consider the arguments advanced here and in the attached Memorandum and enter an order approving the inclusion in the cost estimate of the socio-economic impact and monitoring costs stated in the February 13, 1981 Memorandum. In the alternative, Alaska suggests that the Commission promptly institute a proceeding to address these issues.

Respectfully submitted,



Robert H. Loeffler

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Suite 800
Washington, D.C. 20036

Attorney for the State
Of Alaska

September 18, 1981

VERIFICATION

DISTRICT OF COLUMBIA : SS

Robert H. Loeffler, being duly sworn, deposes and says that he is one of the attorneys for the State of Alaska; that as such he has signed the foregoing Comments of the State of Alaska With Respect To The Proposed Treatment Of Monitoring and Socio-Economic Impact Expenditures; that he is familiar with the contents thereof; and that the matter and things therein set forth are true to the best of his knowledge and belief.


Robert H. Loeffler

Subscribed and sworn to before
me this 18th day of September 1981.

Notary Public, Expires January 31, 1982

Notary Public

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding in accordance with the requirements of Section 1.17 of the Rules of Practice and Procedure.

Dated at Washington, D.C., this 18th day of September, 1981.


Robert H. Loeffler

2/ Any costs associated with these issues will be formulated and supplied at an appropriate time.

the cost estimate and hence that they are properly borne by the ANGTS; that the recovery of such costs from the project is well supported legally, economically, and socially; and that the objection of the Commission staff to the recovery in principle of such costs is neither timely nor well-founded.

Alaska's concerns with the socio-economic impacts of the ANGTS are neither newfound nor casual. They spring directly from Alaska's traumatic experience with the construction of the TransAlaska oil pipeline. Dramatic increases in almost every category of undesirable economic and social behavior occurred. These included but were not limited to housing shortages, rampant inflation in the local cost of goods and services, an explosion in domestic problems such as divorce and child- and spouse-abuse, an increase in crime generally as well as the importation of crimes not seen before in Alaska, and destruction, at least short-term, of some of the amenities that attracted many early Alaskans to the State. The shock of this activity was amplified by its occurrence over a small period of time -- the construction years -- but, several years later, the wound has not healed completely and the scar tissue of Alaskans is tender.

That is not to say that there are not benefits to Alaskans from petroleum development. Alaska's wealth has increased and the State government has attempted to bring the benefit of this new wealth directly to its citizens although these efforts have met at least temporary obstacles.^{3/}

^{3/} In 1980, Alaska enacted legislation providing for the distribution of "dividends" to Alaska residents to be paid from part of the Permanent Fund. The Fund is comprised of a percentage of the State's rentals, royalties and lease sale proceeds received from oil and gas development in the State. Although all dividends are of equal amount, the number of dividends received by each Alaska resident corresponds to the number of years he or she has been a resident since statehood. The Alaska Supreme Court upheld the dividend program in a challenge to its constitutionality on equal protection grounds. Williams v. Zobel, No. 2201 (Alaska Sup. Ct., Oct. 24, 1980). However, distribution of the dividends was stayed by the U.S. Supreme Court pending disposition of an appeal from the Alaska Supreme Court's decision. Zobel v. Williams, No. 80-1146 (U.S. Sup. Ct., Order of November 17, 1980).

Money alone is not the answer; the answer is a concentrated effort to avoid or mitigate the impact of any new major projects in Alaska.

For these reasons, when proceedings were initiated before the Federal Power Commission to consider the competing proposals for the transportation of Alaska natural gas to the Lower Forty-Eight states, Alaska did not stop with announcing its favored proposal but identified as one of its critical concerns the socio-economic impacts of any Alaska gas pipeline and asked that the costs of preventing and remedying those social ills be placed on the pipeline. Alaska said that, "unless ... they are internalized to the project, natural gas consumers in the Lower Forty-Eight states would have an undeserved bargain at the expense of the taxpayers and residents generally of Alaska." Statement of Position of the State of Alaska, El Paso Alaska, et al., docket number CP75-96 et al. at 2 (April 7, 1975).^{4/} This statement of concern was made quite apart from the issue of selection of a particular pipeline proposal. It is a concern that Alaska maintains to this day.

The question of the recovery of socio-economic impact costs was next raised in the Commission's Incentive Rate of Return rulemaking (RM78-12). The Upper Tanana Development Corporation proposed that socio-economic expenditures should constitute a fifth category of change in scope events. The Commission chose a different approach:

"For the reasons discussed below, prudent expenditures of that nature should be included in the certification cost estimate at the outset, and should not be included in the change in scope mechanism." Order 31, at 125 (June 8, 1979).

The Commission staff applied for rehearing of this order on many points but nowhere in its 78 page application did it raise or even mention the Commission's determination on socio-economic costs. See generally, Application for Rehearing of the Commission Staff, Docket RM78-12 (July 24, 1979). Moreover, the Commission did not modify its determination in any regard in Orders 31-A or 31-B.

^{4/} In the El Paso Alaska proceeding, Alaska presented testimony on the socio-economic impact of TAPS and the projected impact of ANGTS.

For that reason, when Alaska Northwest Natural Gas Transportation Company was in the process of preparing its certification cost estimate, it approached Alaska through the State Pipeline Coordinator's Office and asked for an estimate of third party monitoring and socio-economic impact assistance costs. Since the formal State budgetary process that would generate and review such costs had not begun, Alaska's Pipeline Coordinator asked the various state agencies what their best estimate was of the socio-economic impact costs of the ANGTS. These estimates were compiled and supplied to Northwest and they were included in Northwest's application.

When these figures became a point of controversy in the informal proceedings conducted by the Office of the Federal Inspector and the Alaskan Delegate with regard to the certification cost estimate (Docket CP80-435), Alaska informed all parties that revised figures would be filed upon completion of the State budgetary process. By letter of November 24, 1980, Alaska informed all parties that it would supply revised figures no later than December 15, 1980, following the State budget process. By subsequent letter of December 14, 1980, the parties were informed that the budget process was still continuing and a new target date early in January was projected. Now the process is complete and revised numbers are available. Alaska regrets the delay but believes the additional time it spent will ultimately advance the process in which the Commission is engaged.

The revised figures, explained further below, are in 1980 dollars, \$51,255,900 for surveillance, and \$19,784,100 for socio-economic impact assistance in the nature of specific programs, as opposed to the creation of a general fund, for a total of \$71,040,000.^{5/} Socio-economic impact assistance costs have been requested only for impact costs incurred directly as a result of pipeline construction workers and their families, not for the induced impact that will be caused by those attracted to Alaska but not employed by the project. These numbers do not include highway indemnification costs nor do they include such socio-economic impact assistance costs as may be associated with the construction of the conditioning plant.

The Staff position is asserted in its comments of November 7, 1980, which state that third party monitoring (surveillance) costs should remain in the cost estimate unless the statutory basis for those costs is upset by the federal or state courts. Beyond that, the Staff objects to the inclusion of socio-economic impact mitigation costs as

^{5/} In actual dollars (as spent), these figures are \$72,697,100 for surveillance, \$28,312,700 for socio-economic impact assistance, and a total of \$101,009,800.

"not required by statute and may be more properly supported by tax and royalty revenues from the project" and asks that they be deleted from the CCE. Staff Comments, Docket CP80-435, at 4 (November 7, 1981).

Northwest's position is that both monitoring and socio-economic costs should be retained in the CCE but, as to the latter, assets that they be retained in the CCE pending a determination by the FERC of their "allowability." As to both costs, Northwest agrees that the cost performance ratio should be adjusted to reflect actual costs. Report of Alaskan Northwest Natural Gas Transportation Company on Its Understanding of Agreements Reached With the Commission Staff Regarding the Certification Cost and Schedule Estimate, at 1-2 (December 22, 1980).

ARGUMENT

1. The Commission Has Already Ruled That Socio-Economic Impact Costs Should Be Included in the Certification Cost Estimate.

At the outset, Alaska does not believe that, in principle, the propriety of inclusion of socio-economic costs in the cost estimate is unresolved. Order 31 is quite definite in directing that prudent costs of this nature be included in the cost estimate. Order 31 at 125. A fortiori, this is a determination that in principle such costs are properly assignable to the project. Alaska recognizes that a determination whether particular categories of socio-economic expenditures are prudent requires further rulings but the principle of recovery of certain of these costs from the project has been decided. That order is final, both as to rehearing and as to judicial review. The Commission staff had its opportunity to seek rehearing on this point but did not do so. Thus, the principal issue raised by Staff -- whether such costs should be part of the CCE -- is decided and the Staff's arguments should not be heard now except perhaps insofar as they relate to the recovery of particular costs rather than to the permissibility of including any costs of this nature. Further, the appropriate time to address the prudence of such costs would not appear to be this proceeding since determinations of prudence generally are made after, not before, expenditures of funds by a natural gas company. Nonetheless, given the special nature of this proceeding, Alaska will endeavor to address this issue now.

2. That Alaska Will Suffer Adverse Socio-Economic Impact Is Indisputable.

There is and can be no dispute that Alaska will suffer substantial socio-economic impact from construction

of the ANGTS. Construction will last only a few years but it will attract to Alaska not only thousands of construction workers and their families but many others seeking work in peripheral activities related to the project or opportunities in Alaska they may never realize. According to the budget information developed by the State government, more than 35,000 job seekers will come to Alaska in hopes of finding project related employment. As many as 13,171 workers are expected to be employed directly on construction. Yet Alaska's entire population is only 400,481. (1980 census, Preliminary Count). Much of its population is located in the Anchorage SMSA (173,992, 1980 Census, Preliminary Count). But the communities that will experience the most impact are much smaller and nearer the pipeline corridor. For these, the effect of a sudden increase in activity and population from the pipeline can be a severe and immediate shock. Moreover, the level of services necessary to accommodate the impact is not generally that which state and local government are typically called upon to provide, for it is necessary for the few years of the construction period only. It makes no sense for Alaska governments to expand staff and construct permanent facilities for an impact of but a few years duration.

Population increases, housing shortages, local economic changes and sudden and heavy demands on limited public services as a result of increased crime, alcoholism and family problems are all expected as a result of construction of the Alaskan Natural Gas Transportation System. These effects were addressed in the environmental impact statements for ANGTS and more recent studies by the State continue to document their occurrence. No party, not even Staff, disputes that these effects will occur and that they will occur as a result of construction of the ANGTS. Thus, the basic question is of responsibility for mitigating the acknowledged impact.

3. Reimbursement of Socio-Economic Impact Costs Is Prudently Undertaken By The ANGTS

The duty to identify and mitigate socio-economic impact, and to expend funds to that end, is no different in principle than the now well accepted responsibility to identify and mitigate harm to the physical environment. 18 C.F.R. Sections 2.69, 2.80, 2.82. This duty arises not only from the National Environment Policy Act (NEPA) but from the public interest standard itself. No one today would suggest that any major project licensed by the Commission could leave impact to the physical environment unredressed by saying it belonged to the landowners and governments at the site of the project. Injury to the social environment, while less

tangible, also properly comes within the duty to mitigate harm to the "environment."^{6/}

That there is an obligation by Commission licensees to address socio-economic impact^{7/} is recognized in Commission precedent. In Virginia Electric and Power Company (VEPCO), the presiding Administrative Law Judge referred to the requirements of NEPA as "[carrying] with . . . [them] a duty to take reasonable steps within the agency's jurisdiction to ensure that adverse impacts [on the social environment] are mitigated as far as possible." See Limited Decision Issuing License for the Bath County Pumped Storage Project, issued September 20, 1976, Project No. 2716, at p. 48, approved and adopted by the Commission, Opinion 785, January 10, 1977. At issue was whether an applicant for a license to construct power-generation facilities could be required by the Federal Power Commission to bear certain costs associated with the socio-economic impacts anticipated from a large influx of construction-related people. The Administrative Law Judge was persuaded that the applicant should bear some of those costs and that it was the obligation of the Commission to ensure that such impacts were properly mitigated. The Administrative Law Judge ruled that:

the license should be conditioned to require the licensee to extend financial assistance to Highland County to mitigate the impact upon the County's fisc resulting from the influx of project workers, their families and others who accompany them . . . during the period of project construction. The assistance is necessary in the following areas of additional costs, to the extent they are not covered by increased tax revenues and fees attributable to the presence of project workers or increased financial assistance from other levels of government: (1) education; (2) law enforcement; (3) solid waste disposal; (4) general

^{6/} The nature of socio-economic impact from a particular project will vary according to its size, nature, and location. Nonetheless, Alaska knows, based upon its TAPS experience, that such impact can be identified and predicted, especially in as unique a social environment as Alaska.

^{7/} NEPA is not limited to concern with the physical environment. Hanley v. Mitchell, 460 F.2d 640, 647 (2d Cir.), cert. denied, 409 U.S. 990 (1972). Accord, Chelsea Neighborhood Associations v. U.S. Postal Service, 516 F.2d 378, 388 (2d Cir. 1975); Monarch Chemical Works, Inc. v. Exxon, 466 F.Supp. 639, 655-56 (D.Neb. 1979).

government costs; and (5) welfare and other social services. VEPCO Limited Decision, at 56.

This decision does not stand alone. See, e.g., Appalachian Power Company, Opinion and Order of the Commission Granting a License for the Construction of the Blue Ridge Project, issued June 14, 1974, Project No. 2317 (mitigation measures required in the form of financial assistance for moving expenses, personal property losses, and increased mortgage interest costs); Pacific Alaska LNG Company, et al., initial decision, issued August 13, 1979, Docket No. CP75-140 (applicant required to establish experimental bus program and identify and protect cultural values of native Americans). In fact some of the costs that are recognized by the Commission's rules and regulations as standard pipeline cost items are properly characterized as socio-economic impact costs.^{8/}

Thus, Commission precedent recognizes a duty to address socio-economic impact although the particular means that the applicant must select naturally varies according to the circumstances.

The effect of this duty is to ensure that socio-economic costs are "internalized" to a major energy project such as the ANGTS. The "costs" of a major energy project are not limited to impact upon the physical environment alone and mitigation costs also should not be so limited. The "internalization" of social costs is comparable to, and makes just as much sense as, the inclusion of the costs of environmental mitigation, which the President has identified as part of the cost of pipeline construction. See as to environmental costs, President's Decision, at pp. 33-36; 18 C.F.R. Section 2.69, 18 C.F.R. Section 2.80; 18 C.F.R. Section 2.82.

On economic policy grounds, socio-economic costs are also properly a responsibility of the project. Recent Congressional enactments requiring the conservation and efficient use of our natural resources establish that the price of energy resources provided to the public actually

^{8/} See, e.g., The Instructions for Carrier Property Accounts, "3-3, Cost of Property Constructed" include as costs: (6) protection, including "amounts paid to municipal corporations for fire protection ... and analogous items;" (8) privileges and permits, including "compensation for ... use of private or public property or of streets, in connection with construction work;" (10) rent, "including quarters used for construction work;" and (5) cost of contract work performed by others.

should reflect the full cost of their production and transportation, including social and environmental costs. See, e.g., National Energy Conservation Policy Act, Title I, Section 102, 42 U.S.C. Section 8201; Powerplant and Industrial Fuel Use Act of 1978, Title I, Section 102, 42 U.S.C. Section 8301; Public Utility Regulatory Policies Act of 1978, Section 2, 16 U.S.C. Section 2601. Unless these costs are included in the price to the consumer, the result will be an artificially low price which does not reflect actual costs or conform to national policy. Stated more succinctly, "if external social costs are not somehow incorporated in the costs of production, demand may be distorted by reason of incorrect price signals reflecting only internalized costs." Energy Law Service, M5A.74 (Callahan & Co. 1979). Thus, the price to consumers should reflect a true cost of producing a depleting resource. Artificially reducing the price by excluding these costs tends to distort the price signal consumers receive. Conservation and efficient use of our natural resources require that all costs, including the cost of mitigating socio-economic impacts, be included in the "rate base" for the computation of the pipeline tariffs. Only in this manner will the true cost of an energy resource be spread among its recipients.

These policy considerations support the Commission's determination in Order 31 that prudent socio-economic costs be included in the certification cost estimate. Having made that determination, the question pending in this proceeding is the appropriateness of the particular programs as a means of addressing the socio-economic impact of ANGTS. And it is to that question we now turn.

4. The Costs Alaska Has Described Are A Reasonable Response to ANGTS' Duty To Mitigate Socio-Economic Impact

Once the duty to address socio-economic impact is acknowledged, a question of prudence may still arise as to the particular expenditures that are proposed. The programs must be reasonably related to the objective of mitigating impact and likely to achieve that goal. Also relevant may be the scope of the programs --are they focused on project impact or are they aimed at the population at large? Scrutiny of Alaska's programs demonstrates that they meet these tests.

Funds requested are limited to those necessary to address solely impact associated with construction workers and their families, not that from the far larger population attracted to Alaska because of real or perceived opportunities on the pipeline. Stated another way, the State seeks funds only to cover those socio-economic costs directly related to providing natural gas to the Lower Forty-Eight.

The nearly twenty million dollars^{9/} that ANGTS will bear is for programs to be administered by the Departments of Natural Resources, Public Safety, Health and Social Services, and Labor.

Approximately 30% of these funds will be expended by the Department of Natural Resources. It will establish Impact Information Centers and a Citizen's Socio-Economic Advisory Council as a means of informing citizens along the pipeline corridor of the expected impacts and to assist communities and citizens in meeting those impacts as well as providing a channel for Northwest, State, and local officials to work together on meeting the common problem of socio-economic impact. These activities are aimed at preventing sudden shocks from pipeline construction by providing those most likely to be affected with adequate advance information and guidance so that they can anticipate and perhaps avoid the worst part of negative socio-economic impact. These centers are regarded by the State as a direct response to avoiding the surprises of the Alyeska experience and it is believed that they will be effective in implementing ANGTS's duty to mitigate adverse socio-economic impact.

The programs of the Department of Labor to address socio-economic impact are directed to the more than 13,000 workers who will be employed directly on the pipeline in the peak period. It is estimated by the Department of Labor that more than 35,000 job seekers will come to Alaska in search of employment on the project. Department of Labor impact assistance funds will be spent for safety inspections, to enforce occupational and health regulations, to process and, as necessary, adjudicate employment compensation claims for work-related injuries, and for retraining workers injured on the gas line. The balance of the Department of Labor funds will be used to handle administrative services for pipeline-related applications such as unemployment claims.

Department of Public Safety funds would be expended on additional personnel and equipment necessary to enforce vehicle size and weight laws and to license the additional vehicles of workers coming into the State as a result of the pipeline construction. This increased activity will directly benefit ANGTS because it will promote the free flow of truck traffic essential to pipeline construction.

^{9/} Since there has been no significant controversy regarding reimbursement for permitting, monitoring and surveillance programs, this memorandum focuses on the socio-economic programs question principally. The twenty million dollars is for socio-economic mitigation only, not monitoring, as is made clear above.

The Department of Health and Social Services would expend its impact assistance funds for health services, such as inspection of x-ray equipment, monitoring for communicable diseases in pipeline camps and emergency medical services along the pipeline corridor, and for alcoholism and drug abuse programs along the pipeline corridor. Funds will also be expended for social services. The Department estimates that the influx of pipeline workers and their families will give rise to 500 additional cases of child abuse and child neglect. It expects related needs for foster care (29,200 days per year) and institutional care (7,300 days per year), all for pipeline workers and their families. Finally, a small pipeline liaison office will be created to assist in the administration of these programs.

It bears emphasis that the funds sought are but a small fraction of the socio-economic impact costs identified in the State budget process^{10/} and likewise much less than the impact in quantifiable terms that the State expects from construction of the Alaska Natural Gas Transportation System. Alaska is prepared to absorb the cost of the more general, "Type II", impacts.

What this means is that there will be a sharing of the burden of socio-economic impact between ANGTS and the responsible governments in Alaska. Such a sharing is not only consistent with the principles established by VEPCO, supra, but is also a recognition that the problem is mutual. The actual division of expenditures between the project and the Alaska government, while soundly based in this case, is less important than the assumption by the project of at least some of the impact it is causing. It is fitting that the impact most directly caused by, and identified with, the project -- that of the pipeline construction workers and their families -- is the share of the burden that ANGTS is asked to assume.

Also, none of these dollars will go toward the creation of a special fund or funds to be distributed as grants to Alaska citizens as general "compensation" for project-caused disruption. Instead, specific programs have been designed, consistent with the mandate of NEPA and the Commission's responsibility to serve the public interest, to mitigate or avoid adverse socio-economic impact.

^{10/} The Type I impact funds described herein are about 20% of the total impact funds needed to respond to total pipeline impact, according to State agencies.

5. Payment Of These Funds Would Not Trigger The U.S. - Canadian Agreement On Principles

The specific programs for impact caused by construction workers and their families, described above, are quite different in nature than the general fund or funds which the U.S. - Canadian Agreement on Principles is intended to guard against.^{11/} That agreement limits inclusion in the cost of service to U.S. shippers of indirect socio-economic costs for the Yukon Territory and bars public authorities from requiring a special fund or funds in connection with the construction of the pipeline in the Yukon. The exception to that agreement is what may be thought to raise a question. It states: "should public authorities in the State of Alaska require creation of a special fund or funds, financed by contributions not fully reimbursable, in connection with construction of the pipeline in Alaska, the Governments of Canada or the Yukon Territory will have the right to take similar action." President's Decision at 56-57.

The question is the meaning of a "special fund" as used in the Agreement on Principles.^{12/} The meaning of the limitation on "special funds" is best understood by reference to the Canadian proposals -- pre-dating the Agreement on Principles -- for the creation of special funds to be borne by the pipeline and passed on to United States consumers to mitigate Canadian socio-economic impact. Specifically, Dean Kenneth M. Lysyk had conducted an inquiry into the social and economic impact of a gas pipeline through the southern Yukon at the direction of the Canadian Government. Dean Lysyk filed the report of his board on July 29, 1977. The report, which followed the decision of the Canadian National Energy Board, specifically recommended that \$200 million be paid by the pipeline to capitalize a Yukon Heritage Fund to be administered by a board for Yukoners. The \$200 million was to meet "unquantifiable socio- and economic costs and for changes following in the wake of the pipeline that would detract from the quality of life in the Yukon." The fund was not directed at mitigating pipeline related projects nor "as a response to any specific impact, but to improve aspects

^{11/} "Agreement between the United States of America and Canada on Principles Applicable to a Northern Natural Gas Pipeline," see President's Decision at 47-66.

^{12/} The term "fully reimbursable" is also ambiguous because it conceivably could refer to reimbursement from the cost of service.

of the quality of life in the Yukon." Lysyk Report, 149.13/
The fund was in addition to "regulatory measures and responsive government programs" directed at minimizing the negative impacts of the project. Id.

Thus, prior to the negotiations with Canada, United States gas consumers appeared to be facing the prospect of supporting new general purpose funds in the Yukon which would be in the nature of a bonus payment to Yukon residents for the disruption caused to their life by the pipeline. Thus, the subsequent provisions of the agreement between the United States and Canada limiting special funds can fairly be read as aimed at preventing the sort of general fund proposed by the Lysyk inquiry unless the State of Alaska should require such a fund to be established.

As is demonstrated by the specific socio-economic costs which have been described above, Alaska is not seeking such a general purpose fund. It is seeking to recover in a limited way some, but by no means all, of the costs of the expanded State services necessary to accommodate construction workers and their families during the period of construction of the ANGTS. As such, Alaska's proposals do not fall within the literal language or intent of Section 5(b)(ix) of the Agreement on Principles.14/

6. The Staff Position Is Not Well-Founded

Despite the clear and unequivocal order of the Commission that "socio-economic expenditures" be included in the Certification Cost Estimate, the trial staff has commented that the socio-economic costs described by the State are not

13/ The earlier decision of the NEB had also recommended a \$200 million fund, exclusive of the costs of the monitoring authority, to encompass identifiable indirect socio- and economic costs of the pipeline project north of the 60th parallel. NEB, Reasons For Decision, 1-147-48. Although the details were vague, this fund appeared to be somewhat more closely related to specific impact assistance needs.

14/ Annex IV of the Agreement contains examples of direct charges by public authorities that are permissible within the meaning of Paragraph 11 of the Agreement, a related provision. These include "other items specified in environmental stipulations." The socio-economic assistance programs to be funded by the pipeline will be required by the environmental stipulations attached to the right-of-way lease of the State of Alaska and so may be considered direct rather than prohibited indirect charges.

required by statute and "may be more properly supported with tax and royalty revenues from the project." Staff Comments, Docket CP80-435, at 4 (November 7, 1981). In fairness to the Staff, Alaska notes that these comments were made with respect to the early estimates of the State and incorporated by Northwest in its application. The Staff may well reconsider its position in light of the revised information and authority contained in this memorandum. The Staff should reconsider its position for the following reasons.

First, the Staff has not responded to the direct command of Order 31 that socio-economic costs be included in the cost estimate. That Order is a sufficient answer to the Staff's request that such costs not be included in the CCE.

Second, the reliance upon a statutory requirement vel non is misplaced. An expenditure can be prudently incurred regardless of whether a statute requires its payment. An example would be expenditures to mitigate damage to the physical environment such as those for revegetation. No one would assert a statutory requirement as a test for the prudence of such expenditures. Alaska has, on repeated occasions, indicated to Northwest that the ANGTS will be required to assume a share of socio-economic impact costs. If nowhere else, these expenditures could be required as part of the right-of-way leasing process. Alaska could enact legislation directed to this subject but it is plainly not necessary to do so.^{15/}

Third, staff does not give fair recognition to the fact that Alaska, its citizens, and its subordinate governments will bear a large share of the socio-economic impact costs of this project and are seeking from the project only a small share of the total impact caused by the project. Thus, some Alaska tax revenues inevitably will be devoted to ameliorating the impact caused by ANGTS despite the Northwest contribution. The question is whether ANGTS should stand a share of impact costs.

Further, Staff's suggestion that royalty revenues should support these costs is misdirected. Royalties are paid for the privilege of occupying or exploiting the property of the State. Magruder v. Supplee, 316 U.S. 394 (1942). The royalties to be paid by the producers constitute consideration to the State as the landowner of mineral rich property. To require the State to expend its royalty revenues for the mitigation of socio-economic impacts is to take from the State the only

^{15/} If the issue were presented to the Alaska legislature, it is quite likely, although not certain, that ANGTS would be required to bear a far greater share of the impact it causes.

compensation it is to receive for allowing the exploitation of its natural resources. Mitigation of such impact is not the purpose of royalties generally nor is it consistent with the purposes for which those lands were given to Alaska.

A major purpose of the Statehood Act was to enable Alaska "to achieve full equality with existing States, not only in a technical juridical sense, but in practical economic terms as well." H.R. Rep. No. 624, 85th Cong., 1st Sess. 2 (1957). One of the ways this was to be achieved was by "making the new State master in fact of most of the natural resources within its boundaries." Id. at 2. It was expected that Statehood would

the economy of the Territory than would be possible under territorial status. Many witnesses have testified to the Committee regarding the wealth of untapped resources in Alaska." (Id. at 10).

The Senate shared the purposes expressed in the quotations above from the House Report. Alaska was to be admitted into the Union "as a full and equal sovereign State." The lands and resources transferred from Federal to state ownership were intended "to permit the new State to earn its continuing economic independence and growth." Sen. Rep. No. 1163, 85th Cong. 1st Sess. 1 (1957). A national interest in Alaska's self-sufficiency is thus well established. And the dedication of vast national resources to Alaska was implicitly a commitment to Alaskan economic self-determination: Alaskans would be allowed to decide how best to use those resources for their own healthy growth in the manner that they saw fit.^{16/}

^{16/} The policy encapsulated in Section 13(b) of the Alaska Natural Gas Transportation Act of 1976, P.L. 94-586, is but another expression of the national interest in Alaskan self-sufficiency and economic self-determination. Section 13(b) is a Congressional recognition of Alaska's proper entitlement to use its gas for its own purposes. Congressman Young of Alaska explained the rationale for including this provision in the Act:

"Use of Alaska's royalty gas within Alaska may help end Alaska's status as a ward of the Federal government. The national interest in the self-sufficiency of Alaska was expressed in the Alaska Statehood Act as well as in other declarations of national policy. Under that Act, Alaska was permitted to select large quantities of land from the Federal domain with the hope that the land so selected -- and the minerals which it contained -- would provide a basis for building a healthy economic order in Alaska." Cong. Rec. E5808 (October 26, 1976).

It cannot be said that dedicating Alaska's royalty or even severance tax revenues to alleviating short term impact from this national project is consistent with the purposes of the severance and royalty taxes or the grant of ownership of public lands to the State of Alaska. For these revenues would be expended upon a social service infrastructure, which would have outlived its usefulness upon the completion of the project. They would not contribute to Alaska's self-sufficiency nor return a long range benefit to its citizens.

That is not to say Alaska and subordinate governments will not receive tax revenues from the ANGTS. Tax revenues probably will be generated although their amount and nature are uncertain because of pending litigation involving the corporate income tax and the possibility of changes in Alaska's tax regime generally.^{17/} But, revenues from such taxes as then may exist will help meet the cost of impact from the ANGTS that it is not being asked to fund and the unfunded amount is, according to today's best estimates, far larger than what the ANGTS is asked to bear. See p. 11, n. 10 supra. Thus, Alaska's government and citizens will bear a large share of the impact this project will create. But, Alaska's extraction taxes and revenues properly should not be diverted to this purpose and a share of the direct socio-economic impact costs of the ANGTS is properly borne by it.

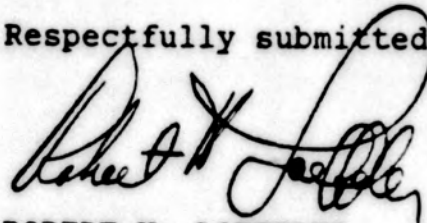
CONCLUSION

For the foregoing reasons, the ANGTS properly should bear a share of the burden of mitigating the adverse socio-economic impact it will cause, inclusion of the State's

^{17/} State severance taxes are also being challenged in a case pending before the U.S. Supreme Court.

revised estimate of such costs in the Certification Cost Estimate is procedurally correct, and the costs of the programs therein described are prudently incurred.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Robert H. Loeffler", written over the typed name.

ROBERT H. LOEFFLER
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Attorneys for the State
of Alaska

February 13, 1981.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Alaskan Northwest Natural Gas)
Transportation Company) Docket No. CP80-435

COMMISSION STAFF COMMENTS

I) On July 1, 1980, Alaskan Northwest Natural Gas Transportation Company (NWA or Applicant) filed a partial application for a final certificate of public convenience and necessity to construct and operate a natural gas pipeline across Alaska as part of the Alaska Natural Gas Transportation System (ANGTS). The incomplete application requested that two issues be addressed at this time, a Certification Cost and Schedule Estimate (CCE or CCSE) and Center Point (CP) determination.

On August 1, 1980, the Commission established a limited "subproceeding" to address the possible resolution of the CCE and CP. The object of the subproceeding is to aid the presiding officers, through a series of technical conferences, in the preparation of a report to the Commission. The report is directed to set out, to the extent possible, the areas of agreement among the parties if any, the areas on which the parties disagree, and to make substantive and procedural recommendations for Commission resolution of all issues within the subproceeding.

The Commission trial staff has actively participated in the technical conferences as well as served data requests and formal Interrogatories. 1/

II) One element mentioned as a concern of the Commission in its Order of August 1, 1980, is the existence of known, yet unresolved, design alternatives at the point of Commission determination of the CCE and CP. The ordering paragraph creating the subproceeding states:

"... (T)he final report shall be based on the pipeline design that is current as of the date of the final conference, including all major

1/ While the present proceeding is a "subproceeding", the Commission has not in any way limited the trial staff from performing its traditional role. Therefore, the staff has actively investigated the issues within the subproceeding as well as the many areas that must be addressed before final certification can issue.

design alternatives under consideration by the project sponsors, whether or not such design alternatives are identified in the application." (Ordering Paragraph C, mimeo at 12).

At the request of the presiding officers, the staff has previously provided: 1) A list of outstanding, unresolved design alternatives; in addition to the four mentioned in the right-of-way grant material and the interim report of the presiding officers dated September 26, 1980; 2) Comments of how or whether such outstanding design issues may be handled in determining the CCE and CP consistent with Commission Orders 31 and 31B. (Comments filed October 3, 1980).

III) At the technical conference of October 23, 1980, (Tr 37, 38), the presiding officer requested that trial staff provide by November 7, 1980, a summary document concerning the various outstanding design issues. Each such issue was to be discussed delineating the staff's understanding of the potential for resolution of the issue by stipulation or more formal proceedings such as cross-examination of witnesses where information is deficient.

The staff agreed to provide such a document on the understanding that it be deemed a preliminary statement of the staff's position. (Tr. 40). The lack of requested information and time to review that which was provided on the design issues, renders certain the need for revision should long-sought and essential information be provided in the future conferences or as answers to Interrogatories.

The staff believes that its outstanding design issues fall roughly into three categories: 1) Those issues where sufficient information has been received for adequate analysis and where an atmosphere exists for some formal stipulation to be entered into by the parties when a proper vehicle for entering such stipulation presents itself; 2) Those substantial issues where sufficient information exists to presume the need for full hearing or other formal inquiry by the Commission prior to addressing the granting of final certification; 3) Those issues where essential information is still lacking to such an extent as to preclude a determination by the staff as to which approach to resolution is appropriate.

The staff's tentative positions on those matters are listed below (see VI infra).

IV) The technical conferences to date have addressed many elements of the CCE and CP. At times, certain areas were discussed through question and answer in great detail. However, the staff has not taken a position, even tentatively, on the many areas discussed and no opportunity to do so has appeared.

Therefore, for the purposes of a complete record as well as informing the presiding officers and all parties, the staff has in-

cluded its tentative position on as many additional areas of disagreement herein as time would allow.

Staff has two major concerns with the Certification Cost Estimate (CCE) of \$8.79 billion filed by Alaskan Northwest Natural Gas Transportation Co. (NWA) on July 1, 1980, and amended to \$9.1 billion on October 27, 1980. The first concern is with the methodology of the estimates, the embedded contingencies, and the appropriate contingency and Center Point given the estimate content. The second concern is with major design changes identified by the parties and the appropriate treatment of these changes. The potential cost impact of the staff concerns with sufficient information to estimate costs amount to an aggregate reduction in the CCE of \$929 million and/or to an aggregate increase in excess of \$846 million excluding contingency and finance charge. The Staff finds the methodology of engineering and design to be conservative and a minimum risk approach. The Staff will explore the appropriate contingency and Center Point values in the final technical conference in the subproceeding on November 10-20, 1980.

V) Two additional items should be stressed at this time:

First, the application of July 1, 1980, was substantially amended on or about October 27, 1980, reflecting the rerouting of the proposed pipeline consistent with the terms of the right-of-way grant issued by the Department of the Interior. In addition to the change in location, the amendment reflects the additional costs associated with the changes. The material is some 10 volumes in length and effects nearly half the proposed route.

Second, at the conference of October 7, 1980, the staff made an offer of settlement to NWA potentially to resolve part of the list of outstanding design issues. (Tr. 59-61). In sum, the offer addressed those outstanding design issues known prior to certification but as to which NWA either does not wish to or cannot provide design, cost, and risk which will result in a net reduction in project costs. The staff suggested that if such design alternatives are later adopted, NWA would request a reduction of its CCE to the extent of the savings. The staff continues to believe that major design alternatives known prior to certification should be analyzed for design, cost, and center point effect prior to the determination of the CCE and CP.

VI) TENTATIVE STAFF POSITIONS

1. PROJECT DIRECTORATE ESTIMATE ISSUES

The issues involved in third party monitoring costs were discussed by the parties in the technical conference of October 27-29, 1980. Only \$75.2 million of the \$278.6 million estimated for third party monitoring are required by Federal and Alaska statutes. Staff notes that the Federal statute, the Mineral Leasing Act, is

being challenged in court by Pacific Gas Transmission Co. and Northern Border Pipeline Co., and as a result \$53.6 million of the \$75.2 million at least has a possibility of not being expended.

The remaining \$203.4 million in costs to the State of Alaska is not required by statute and may be more properly supported with tax and royalty revenues from the project. These costs appear to be related to financing participation by Alaska which is not presently at issue or filed with the Commission in this subproceeding.

NWA has requested that third party monitoring costs not be included in the project Cost Performance Ratio since they are not under the control of NWA. Staff could possibly agree to such a position provided that costs caused by fault or non-performance on the part of NWA not passed through, a procedure to which NWA has given preliminary consent.

Project Directorate costs include pre-certification costs for which approval is pending before the Commission in Docket No. CP78-123, et al. Staff believes that CP78-123, et al., is the appropriate forum for approval of pre-certification costs and that the CCE should be adjusted accordingly.

The parties have noted the absence of costs for a minority training program and an EEO compliance program in the CCE. All parties agreed to the immediate requirement for these programs. Accordingly, the staff believes that costs should be immediately included in the CCE for such programs.

All remaining Project Directorate costs will be examined in the Technical Conference of November 10-20, 1980.

2. DOI REROUTE

NWA filed an amended design and CCE on October 27, 1980, for the reroute mandated by the DOI right of way grant. The increase in cost of \$200 million in pipeline, of \$402.2 million in temporary facilities, and of \$12.3 million in project directorate will be examined during the technical conference of November 10-20, 1980.

3. EMBANKMENT CONSTRUCTION MODE

NWA was to provide cost estimates to the parties by November 7, 1980, for alternative embankment construction modes.

4. SNOW PAD - SNOW ROAD CONSTRUCTION

NWA was to provide cost estimates to the parties by November 7, 1980, for snow pad and snow road construction.

5. ATIGUN PASS TUNNEL

NWA was to provide a cost estimate for the 22,000 foot Atigun Pass Tunnell alternative to the parties by October 27, 1980. NWA declined to develop this information by letter dated October 28, 1980. Staff independently estimates that a tunnel to carry a road

and four pipelines, but excluding the costs of constructing the road and the pipeline, at a range of \$100 million to \$700 million. Any split of costs proposed between Alaska, Alyeska, and NWA is unknown. At the very least, all costs associated with Atigun Pass should be deleted from the CCE until the tunnel option is decided.

6. THERMAL WORKPAD

Staff believes that concerns of Alyeska and of the State of Alaska relating to thaw degradation of the Prudhoe Bay haul road and of the soil surrounding the Alyeska Fuel Gas Pipeline will force NWA to use a thermal workpad adjacent to the haul road. NWA has proposed only a structural workpad.

Staff estimates a cost increase of \$73 million for installing 1.5 inches of insulating board in the workpad on Sections 1 through 4.

7. AERIAL CROSSING OF YUKON RIVER

Alyeska presently holds the rights to use the vacant easterly Yukon River Bridge pipeline crossing carriage. NWA's estimate is based on obtaining the rights to use this existing crossing. If NWA fails to obtain those rights, an aerial crossing of the Yukon River would be required. The staff estimates the cost of this crossing at \$18.5 million. A reduction of \$10 million in crossing royalty cost would give a net cost estimate increase of \$8.5 million for the crossing excluding reroute costs.

8. REDUCTION OR ELIMINATION OF WORKPAD IN SPREADS 5 & 6

The staff has designed a minimum workpad in Spreads 5 and 6 based on considerations of equipment movement and the proprietary geotechnical data of the sponsors. The staff design would result in a cost reduction of \$91 million. The staff notes that NWA has reduced the average workpad thickness from 42 inches to 36 inches for these spreads in the amended CCE "filing" of October 27, 1980.

9. AMBIENT TEMPERATURE PIPELINE IN SPREADS 5 & 6

The staff has studied the proprietary data provided by NWA that indicates the existence of a thaw bulb along the Haines Pipeline right of way, and delineates the soil types encountered. The staff notes the thaw bulb is so extensive that NWA is studying moving the chilled gas pipeline 12 to 15 feet off the stripped right of way in order to reach non-thawed soil.

Based on the proprietary data, the staff believes that an ambient temperature pipeline extending from the discharge of Compressor Station 13 to the Canadian Border is technically feasible. Two alternate pipeline designs are feasible depending on the

assumptions:

1. Conventional buried pipeline assuming that any thaw settlement has already occurred along the Haines right-of-way. This option would result in a cost savings of \$221 million.
2. Conventional buried pipeline alternating with gravel embankment construction over permafrost soils containing greater than 7 percent silt and greater than 50 percent passing 200 mesh. The embankment made of construction material should mitigate thaw settlement in the permafrost soils. This option would result in a cost savings of \$171 million.

Operating (fuel) costs would decrease by 40 percent for a non-chilled pipeline in that an increase in compression horsepower is more than offset by elimination of refrigeration horsepower.

10. LESS CONSERVATIVE FROST HEAVE MITIGATION

NWA expects that insulation thickness may be reduced from the CCE design based on test results from the frost heave test facilities. It is probably impossible to quantify these savings without data from the facilities. It may be possible to prove that any re-

duction in rate base from cost savings in this area would be of more benefit to the ratepayer than any gain in the rate of return on equity.

11. INCREASE OF ONE YEAR IN CONSTRUCTION SCHEDULE

NWA takes the position that the pipeline and conditioning plant will be available for service on schedule despite some indications to the contrary. Presumably NWA is willing to accept the risk of a 6 month to 1 year delay in the conditioning plant, and a mechanism could be crafted to allocate the risk properly.

12. COMMUNICATIONS SYSTEM DESIGN

As previously stated, the communications system design is based on two alternate scopes and is not equipment specific. Presumably a less expensive system or a more expensive, but more reliable, system may emerge in final design.

13. NEW CONSTRUCTION CAMPS

Staff has been unable to obtain the cost of new construction camps from NWA in order to compare with purchase, renovation, and relocation of Alyeska camps.

14. PIPELINE LAY RATE

The pipeline lay rate of 3200 feet (40 joints) per day for bare pipe and 2800 feet per day for insulated pipe forms the basis of the entire estimate. This lay rate was determined by a panel of experienced Execution Contractors (EC's) and represents their collective best judgement based on Alaskan and worldwide experience with pipeline construction. However, this lay rate of 3200 ft. (40

joints) contrasts with the March, 1977, estimate of 4000 feet or 50 joints per day, with the projected Foothills lay rate of 3600 feet or 54 joints per day, and with a Williams Brothers estimated lay rate of 4000 feet or 50 joints per day. Thus, the filed lay rate contains some embedded contingency for Alaskan experience which must be accounted for in establishing the values of contingency and Center Point.

15. PIPELINE CONSTRUCTION CONTINGENCY FOR WEATHER AND DELAY

The cost estimate for pipeline construction is based on a ten percent factor for weather and a two and one half percent factor for delay. This is applied to the Line Up/Hot Pass welders and all other pipeline operations are coordinated and staffed to this central function. This twelve and one half percent factor is further stated in the workpapers supplied for "Haul and String" and for "Haul and String Weights". Although NWA claims that this is a standard estimating practice, the staff maintains that it represents, rather, a contingency for weather embedded in the estimate that must be taken into account when setting values for contingency and Center Point.

16. DITCH GRAVEL QUANTITY ERROR

The estimated gravel requirements for ditch backfill in the amended cost estimate is approximately three times the ditch volume available to be backfilled. Correcting this error for material site stripping, crushing, hauling, and indirect costs results in approximately a \$200 million reduction in the amended estimate. Although NWA stated that this error in the original estimate would be corrected, the staff notes that an incomplete correction was made in NWA's submission of October 27, 1980.

17. LINE PIPE SPECIFICATIONS AND PRICE

The staff has requested the exact specification provided to the line pipe manufacturers as a basis of bid quotation, but NWA has not provided this information to date. A general statement is made that one half the pipe will have a Charpy Impact specification of 70 ft.-lb. and one half will have a specification of 105 ft.-lb. and that these two toughness levels will be randomly placed in the pipeline for crack propagation resistance. The staff believes that such a random placement would not be realistic, and that costs for planned placement logistics and control should be added to the estimate. At this time the staff has insufficient information to estimate the costs of planned-versus-random placement.

NWA has also stated that a lower toughness specification and the use of crack mechanical arrestors is still under active study. The staff, again, has insufficient information to evaluate the cost impact of such a design change. The staff understands that the cost of the higher toughness pipe is substantial and any approval of the CCE should stipulate that the associated costs should be lowered should the arrestor approach be eventually chosen.

Finally, the line pipe price in the estimate is based on an average of prices from six suppliers, five foreign and one domestic. This procedure presumes that equal amounts of pipe will be purchased from each supplier, whereas freight is estimated (temporary facilities) on the basis of 75 percent foreign and 25 percent

domestic. A further complication is the inability of the domestic manufacturer to meet the toughness specification at present although NWA, without demonstrated justification estimated on the basis that adequate toughness specifications could be met at the future time of purchase.

Purchase of the pipe from the low bidder rather than the average price would result in a cost savings of \$133 million. Purchase of 75 percent of the pipe from the low bidder and 25 percent domestic would result in a cost savings of \$84 million. Should a strong "Buy American Act" be legislated, assuming that the domestic manufacturer can meet the delivery and specifications, costs would increase by \$64.7 million.

18. MISCELLANEOUS UNSPECIFIED MATERIALS

Pipeline materials segment of the estimate contains a line item for miscellaneous unspecified material equal to 25 percent of all specified miscellaneous materials. This line item, stated to be based on current estimating practice, may contain some inherent contingency.

19. COMPRESSOR AND METERING STATION ESTIMATE CONCERNS

The refrigeration capacity requirement calculated by the FERC-AGPO computer model is 40 percent of the refrigeration capacity specified by NWA. The staff is continuing to investigate this anomaly and its potential for a cost estimate reduction of \$70 million as well as substantial operating cost savings.

It should be noted that the NWA specified refrigeration capacity increased by 25 percent from the March, 1977, Estimate to the current CCE and is based on bare pipe heat transfer whereas much of the pipe will be insulated. Taking a credit for the insulation should reduce costs further.

The material price for compressors and turbine drivers was established by averaging four of ten quotations received. The staff has requested, but has not received, a quotation summary for all ten quotations. Staff also requested the quotation for the refrigeration equipment used for the \$20 million estimate for testing equipment; the same has not been received. In addition, the NWA estimate included certain allowances in the material takeoffs. The staff believe the \$20 million and the material takeoff allowances and definite factors in the consideration in the consideration of contingency and should be discussed at the November conference.

The staff has also requested information concerning Fluor's cost overrun experience in constructing the TAPS pump stations but has not yet received the information although the Morrison-Knudsen study would indicate that it is available. This information would be very helpful in analyzing the validity of NWA's contingency estimates for the compressor and metering stations.

20. TEMPORARY FACILITIES AND SERVICES ESTIMATE CONCERNS

The purchase of compressor station construction camps from Alyeska is a confused issue with NWA claiming during the sub-proceeding that it plans to purchase eight pump station camps whereas the workpapers in support of the estimate show the purchase of nine

pump station camps. The additional camp in question has already been sold to ARCO by Alyeska, but it remains in the CCE at an average cost of \$10.8 million to purchase, relocate and refurbish. If NWA requires eight pump station camps, the \$10.8 presently shown for the ninth camp million should be removed from the estimate. If NWA requires nine camps, the cost of constructing a new station camp should be included in the estimate.

The staff has requested NWA to supply information on the cost of new camps, but NWA has refused to do so until negotiations with Alyeska are completed. NWA has stated that negotiation should be concluded by Mid-November and information will then be promptly provided to the staff. The cost of new camps is required to compare with purchase, relocation, and renovation of the 24 or 25 camps to be obtained from Alyeska. These costs are also required to evaluate the appropriate values for contingency and Center Point in the event that purchase negotiations with Alyeska are not successful.

NWA has estimated that 40 percent of the camp sewage treatment facilities must be replaced and 60 percent can be renovated. The latest NWA consultant study on the treatment facilities cannot be made available to the staff until December, 1980. The staff observation of some of the facilities indicates a requirement for 100 percent replacement.

The cost for restoring and revegetating the Alyeska camp sites after purchase and relocation of the camps is included in the NWA estimate. The staff believes that this cost properly should remain the responsibility of Alyeska or that a transfer of the responsibility to NWA should reduce the purchase price of the camps.

Finally, the staff notes that an office space leasing figure of \$2.10 per square foot per month for the Fairbanks area has been utilized in the temporary facilities and in the communications system estimates. This cost compares to a Fairbanks average of \$1.36/sq. ft./month and a lowest rate of \$.75. Although the total amount of money is not worth argument, this rate is an additional and cogent example of the conservative approach in the estimate.

21. COMMUNICATIONS AND SUPERVISORY SYSTEM ESTIMATE

The estimate filed by NWA is based on an average of two quotations for a microwave-based, terrestrial system and two quotations for a satellite-based system. These systems were quoted to satisfy performance specifications, and do not provide quantities or prices of materials from which the Office of the Federal Inspector would be able to track design changes. The quoted facilities do not include costs for an interface with the Foothills facility at the Canadian border.

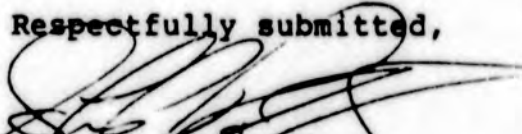
A Support Service line item for \$236 thousand is for an undefinable consulting service if required. This amount certainly appears to fit the category of contingency. The Staff believes the design basis to be overly conservative; any approval of the CCE should stipulate the associated costs should be lowered should the existing system be utilized.

22. ENVIRONMENTAL CONCERNS

At present there are three areas of concern to the staff. First is the the roughly 300 miles of rerouting around the Fairbanks area. No environmental baseline material has been provided for this segment nor has there been any discussion of access to this area. Secondly, the staff remains concerned about the increasing quantities of gravel estimated to be needed. To what extent will new material sites be required? What is the magnitude of the anticipated extensions to existing sites over and above the original proposal? What environmental baseline data is available for the new sites and/or what efforts are being taken to obtain such information? Lastly, the Atigun Pass tunnel is also of concern. The primary items of interest are the locations and extent of the adit points and construction work areas, the quantity of excavated material and the method and locations of disposal or use of this large volume of material, and disruption of the environment by disposal of excavated material and by blasting at the adits.

The currently proposed pipeline design involves many modifications in mile-by-mile design and routing which are markedly different from the design and routing contemplated in the original proposal. Many of these modifications go beyond the scope of the environmental impact statements prepared for the project. The staff believes that there must be an assessment of the environmental significance of the filed modifications as well as future major modifications to avoid delays based on environmental considerations.

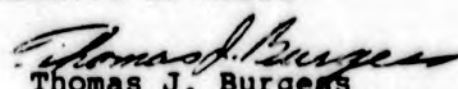
Respectfully submitted,



John P. Roddy



David L. Huard



Thomas J. Burgess
Commission Staff Counsel

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in Docket No. CP80-435, in accordance with the requirements of Section 1.17 of the Rules of Practice and Procedure.

Dated at Washington, D.C. this 7th day of November, 1980.


John P. Roddy
Commission Staff Counsel

On another matter, the ERA rejected a request by United Gas Pipe Line Co. to examine in this proceeding the matter of the exclusionary provisions in the contract between Border Gas and PEMEX as they might apply to additional Mexican imports above the 300,000 Mcf/d currently authorized. This issue, the ERA said, is not germane to the issues raised in the application. The ERA referred to reasons set forth in Opinion No. 15 wherein it concluded that it would be premature to address this issue in the context of the volumes presently authorized. However, the ERA reiterated that it does not intend to give even tacit approval to the exclusionary provisions insofar as they apply to volumes in excess of the initial 300,000 Mcf/d, and reserves the right to examine the issues raised by United when it is asked to approve additional volumes.

The ERA directed that initial submissions be served by 8/25/80 and rebuttal submissions by 9/15/80. Upon ERA's own motion or at the request of the parties, it may be determined that an evidentiary hearing or an oral argument will be required. Any party making a request for hearing or oral argument in either the initial or rebuttal submissions must include factual issues in dispute, and suggest a procedural schedule.

FERC Establishes Procedures for Consideration of Alaskan Northwest's Application to Construct Alaskan Segment of ANGTS

On 8/1/80 the FERC issued notice of, an established procedures with respect to, the application filed on 7/1/80 by Alaskan Northwest Natural Gas Transportation Co. (CP80-435) for a final certificate authorizing construction and operation of the Alaskan segment of the Alaska Natural Gas Transportation System. The Commission, among other things, directed the Alaskan Delegate to convene a series of technical conferences to consider the Certification Cost Estimate and Center Point values proposed by Alaskan Northwest, and to consider all related Alaskan segment incentive rate of return issues not previously decided by the Commission that are now ripe for decision.

Alaskan Northwest is a partnership comprised of affiliates of seven major pipelines -- Northwest Pipeline Corp., Michigan Wisconsin Pipe Line Co., Northern Natural Gas Co., Pacific Gas Transmission Co., Pacific Interstate Transmission Co., Panhandle Eastern Pipe Line Co. and United Gas Pipe Line Co. The Alaskan segment of the ANGTS comprises 743 miles of 48-inch pipeline extending from the Prudhoe Bay area along a route generally parallel to TAPS to Delta Junction (south of Fairbanks) and then running east to a point of interconnection with Foothills Pipe Lines (Yukon) on the Alaskan-Yukon border. The line is designed to transport up to 2 Bcf/d initially, capable of expansion to 3.2 Bcf/d with installation of nine additional compressor stations. Based on design as of April 1980, the application showed an estimated total construction cost for the Alaskan segment of \$8.8 billion (in January 1980 dollars) including finance charges (\$7.9 billion excluding finance charge or allowance for funds used during construction), or about 166% higher than the March 1977 cost estimate of \$3.3 billion (restated in a comparable cost format and in January 1980 dollars) considered in the President's Decision dated September 1977 approving the ANGTS. The application requested (1) approval of the remaining parameters necessary to implement the Incentive Rate of Return mechanism previously established by the FERC (in compliance with a condition of the President's Decision) to control cost overruns -- the Certification Cost Estimate and the Center Point; (2) approval of Alaskan Northwest's plan for the private financing of the Alaskan segment of the ANGTS; and (3) a determination that the project costs reflected in the 1980 Certification Cost Estimate are not "unreasonably different" from March 1977 cost estimates considered in the President's Decision and that the project therefore continues to be in the national and public interest.

However, Alaskan Northwest recognized that the Commission can presently take no action to approve a private financing plan for the Alaskan segment since no such plan has been executed as yet. Alaskan Northwest noted in this regard a "Joint Statement of Intention" recently signed with the three principal North Slope gas producers regarding development of a financing plan. The Commission also cannot determine that the ANGTS continues to be in the national and public interest, Alaskan Northwest asserted, until it submits pro forma statements of operating revenues, expenses, and income for the first five years of operation at full capacity, a projected cost of service for the Alaskan segment, and an analysis of the marketability of Alaskan gas during the life of the project. This material, omitted from the instant application, will be provided with Alaskan Northwest's financing exhibits. Pending review of such material, Alaskan Northwest said the Commission must defer comparison of the 1977 and 1980 cost estimates. (See REPORT NO. 1269, ppl3-16.)

In the instant order, the Commission noted a number of matters associated with final certification of the Alaskan segment which must await submission of the financing plan. These include marketability of the gas, the continuing relationship of the project to the national interest, and the relationship of project costs to those considered at the time of the President's Decision. Because the financing plan has not yet been filed, the Commission decided to defer such matters to a final certification proceeding which would be initiated upon submission of the financing plan.

However, in order to resolve outstanding matters regarding the IROR mechanism as it applies to the Alaskan segment, the Commission instituted a special sub-proceeding to deal with the sponsors' proposed Certification Cost Estimate and Center Point values, plus the remaining IROR matters which could now be resolved. Rather than an adjudicatory proceeding, the Commission will use notice and comment procedures in order to satisfy the ANGTA for expedition. However, these notice and comment procedures will be preceded by a series of technical conferences to resolve many of the issues and clarify the others.

The technical conferences will be presided over by the Alaskan Delegate in conjunction with the Office of the Federal Inspector through the Director of its Division of Audits and Cost Analysis. The Alaskan Delegate will hold the conferences at places and dates to be determined and any party of record may participate, including any party the Alaskan Delegate decides should participate. Also, in order to minimize confusion and reduce burdens on the parties, the Commission decided not to consolidate the instant application (CP80-435) with the overall proceeding (CP78-123 et al.), although it will deem all parties in the consolidated proceeding as participants. Because the matters to be discussed at the technical conferences are highly technical and complex, the Commission decided that the service list would be restricted only to those parties requesting inclusion therein and those added at the discretion of the Alaskan Delegate.

The first conference should be held in early September in Washington, the Commission said, to determine procedures for future conferences which may be held in Washington, California, Alaska or any other appropriate place. When the Alaskan Delegate and the OFI Division Director determine that further conferences are unnecessary, they are to report to the Commission on the issues about which there is general agreement and those which the parties disagree, and make substantive and procedural recommendations to the Commission to resolve all issues. At the first conference, the Alaskan Delegate must determine whether transcripts will be kept of the technical conferences. Also, the Alaskan Delegate will be authorized to make rulings with respect to discovery of information and production of documents.

The Commission expressed particular concern that certain design issues remain outstanding despite the contemplation in its orders establishing the IROR mechanism that all such issues would be resolved before filing of the Certification Cost Estimate. Because of this concern, the Commission directed the Alaskan Delegate to conduct the conferences so as to identify completely all of the major outstanding design issues and address the cost consequences of alternate resolutions thereof. At present, the Commission added, it is not certain how to deal with the question of outstanding major design issues at the time of approval of the Certification Cost Estimate and Center Point values. Hence, the Commission also directed that the technical conferences address the question of alternative values for these parameters, depending on the alternative resolutions of the major outstanding design issues. In this connection, the Commission made clear that the project sponsors have an affirmative obligation to disclose voluntarily, promptly and fully all design alternatives which they may have considered and which could have a significant impact on the cost estimates set forth in their applications.

In order to have the benefit of the views of interested parties on these procedures for the technical conferences, the Commission directed that comments may be filed with the Alaskan Delegate by 8/15/80, which will then be reviewed with participants at the first conference. Thereafter, the Alaskan Delegate may advise the Commission of any recommendations as to procedural revisions.

Fifth Circuit Affirms FERC Rejection of Settlement Permitting Dorchester Gas to Retain Escrowed Funds for Use in Drilling Projects Because of Additional Incentive Provided in NGPA

On 7/30/80 the U.S. Court of Appeals for the Fifth Circuit issued a per curiam decision affirming an 8/1/79 order of the FERC rejecting for the second time a settlement offer proposed by Dorchester Gas Producing Co. (G-18671) whereunder it would use escrowed funds in gas exploration and development programs in lieu of refunding such monies to the pipeline involved. The Fifth Circuit had remanded the Commission's rejection of the proposed settlement the first time for reconsideration in light of the natural gas shortage. In the instant decision, the Court concluded that the Commission properly acted under the remand and its decision to reject the second settlement offer must be affirmed. Dorchester Gas Producing Co. v. FERC, Nos. 79-3431.

The 8/1/79 order represented the third time the Commission denied a settlement proposal whereunder Dorchester would establish an exploration and development program to obtain forgiveness of refunds owed to Northern Natural Gas Co. under the terms of Opinion No. 586 in the Hugoton-Anadarko Area Rate Proceeding (AR64-1 et al.). On 4/14/75 the Commission found Dorchester's proposal to release \$5.2 million in escrowed refund monies to explore for new gas to be dedicated to Northern as inconsistent with the settlement approved in the Hugoton-Anadarko area rate case -- to which Dorchester was a signatory party -- excusing refund of 100% of excess amounts collected prior to 1961 and 30% of excess amounts collected in 1961 and 1962, but excusing no refunds for excess collections after 1962. Subsequently, however, the Commission granted rehearing to consider Dorchester's exploration proposal if it could show, under the test laid down in the Permian I area rate decision, that it is entitled to refund forgiveness or a higher rate for past periods because it would be deprived of funds sufficient to cover out-of-pocket operating expenses.

After further hearings, Dorchester submitted a revised settlement offer providing for institution of a gas exploration and development program with refund monies owed to Northern. In support, Dorchester presented evidence designed to show, among other things, a negative return on investment in interstate gas operations.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Alaskan Northwest Natural Gas
Transportation Company

) Docket No. CP80-435

COMMISSION STAFF COMMENT TO REVISED
ESTIMATE OF SOCIO-ECONOMIC EXPENDITURES

On February 13, 1980, the State of Alaska served on the restricted service list its memorandum regarding the recovery of monitoring and socio-economic expenditures and the submission of a revised estimate of such costs.

In response, the Commission Staff continues its assertion that those cost incurred by the State of Alaska which are not specifically required by statute would be more properly mitigated by tax and royalty revenues from the project. 1/

The State of Alaska argues that Commission Order 31 requires that such costs be fixed in the Certification Cost Estimate (CCSE). Order 31 at 125. Staff contends that Order 31 directs that such cost not be included under the change of scope mechanism. In so directing the Commission provided a forum to review the appropriateness of internalizing such cost to the project. That forum is the ongoing review by the Commission of the proposed CCSE. After considerable examination staff views these costs as inappropriate for inclusion in the CCSE.

In addition, Staff contends that the costs in question appear to be related to the State of Alaska's participation in the financing of the project.

The statutory authority enabling the State to make any such recovery, leaving aside the magnitude and prudence of such costs, was specifically premised on the State's active participation in the financing of the project. 2/

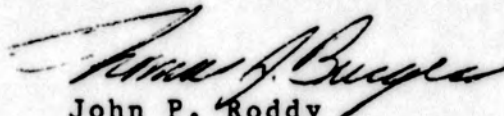
1/ See: Technical Conference on Alaskan Segment, Docket No. CP80-435, October 8, 1980, Transcript pages 11-19.

2/ Alaska Statutes, Supplement §44.55.100(13)(D) and (E). See also: Financial and Alaska Impact Plan; A Report to the First Session of the Eleventh Legislature, The Alaska Gas Pipeline Financing Authority, March 14, 1979.

Even if inclusion of the cost in the CCSE were allowed in principle, unless and until Alaska's project financing participation becomes a reality, the parties herein have no legitimate basis upon which to discuss the subject recoveries.

Therefore, Staff believes that discussion of the subject cost items is inappropriate at this time and should be postponed until such time as the State of Alaska formalizes its participation in the financing of this project.

Respectfully submitted,



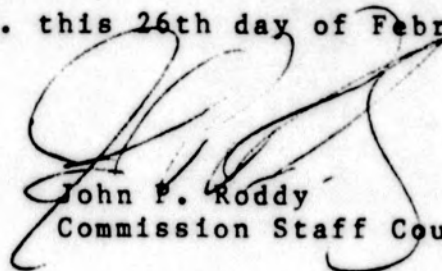
John P. Roddy
Thomas J. Burgess
Commission Staff Counsel

cc: Restricted service list

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official restricted service list compiled by the Secretary in Docket No. CP80-435, in accordance with the requirements of Section 1.17 of the Rules of Practice and Procedure.

Dated at Washington, D.C. this 26th day of February, 1981.


John P. Roddy
Commission Staff Counsel

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Georgiana Sheldon, Acting Chairman;
Matthew Holden, Jr., George R. Hall
and J. David Hughes.

Alaskan Northwest Natural Gas
Transportation Company

)
)

Docket No. CP78-123,
et. al.

ORDER MODIFYING ORDER TO SHOW CAUSE

(Issued February 23, 1981)

On December 15, 1980, the Commission issued in the above-captioned proceeding an order to show cause, within 60 days, why the Commission should not adopt, for purposes of rate base determination, the data and opinions set forth in three Reports on Results of Audit prepared by the Office of the Chief Accountant. On January 14, 1981, in response to a motion filed by the Public Service Commission of the State of New York, the Commission issued an order authorizing any interested person to submit, no later than March 16, 1981, pleadings responsive to any pleadings submitted within the 60 day period provided by the December 15 order.^{1/}

On January 29, 1981, Alaskan Northwest Natural Gas Transportation Company (ANNGTC) filed a motion for leave to file a response to any pleading submitted in answer to the pleading that ANNGTC apparently intends to file within the 60 day initial period. ANNGTC states that it has the burden of proof on these matters, that it needs an opportunity to respond to whatever points might be raised in pleadings filed on or about March 16, 1981, that ANNGTC would be prepared to file its reply no later than March 31, 1981, and that this additional two week extension will not unduly delay the proceeding.

We will grant ANNGTC's motion as an exercise of the Commission's discretion in response to the representations made by ANNGTC.

^{1/} We also take this occasion to correct a typographical error in the January 14, 1981 order. The ordering paragraph inadvertently identified the date as March 16, 1980 rather than March 16, 1981.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Georgiana Sheldon, Acting Chairman;
Matthew Holden, Jr., George R. Hall
and J. David Hughes.

Northwest Alaskan Pipeline Company	)	Docket No. CP78-123, <u>et al.</u>
Northern Border Pipeline Company	)	Docket No. CP78-124
Pacific Gas Transmission Company	)	Docket No. CP79-60

ORDER ATTACHING CONDITIONS TO CERTIFICATES

(Issued February 23, 1981)

On December 19, 1980, the Commission issued an order proposing the adoption of a condition to be appended to the final certificates of public convenience and necessity (for construction and operation of the Alaska Natural Gas Transportation System) issued by the Commission to Pacific Gas Transmission Company and Northern Border Pipeline Company in its orders of January 11 and April 28, 1980 in Docket No. CP78-123, et al.,^{1/} as well as to the conditional certificates issued December 16, 1977 in the same docket. The proposed condition (attached to this order as an appendix) implements an executive agreement between the United States and Canada with respect to reciprocal procurement procedures for the U.S. and Canadian segments of the system. That agreement is embodied in an exchange of notes, signed June 10, 1980, a copy of which was appended to the December 19 order.

In light of the limited number, nature and scope of the proposed conditions, as well as the statutory mandate of Section 9 of the Alaska Natural Gas Transportation Act (ANGTA), 15 U.S.C. 719g, that certification of the Alaska Natural Gas Transportation System be expedited, the Commission decided to use notice and comment procedures to consider the condition. In addition to other applicable law, this order is issued pursuant to Section 7(e) of the Natural Gas Act, 15 U.S.C. 717f(e). Section 9 of ANGTA, the President's Decision and Report to Congress on the Alaska Natural Gas Transportation System (Decision),^{2/} Paragraph 7 of the Agreement Between the United States of America and Canada on Principles Applicable to a Northern Natural Gas Pipeline, and Section 402(a) of the Department of Energy Organization Act, 42 U.S.C. 7172(a).

^{1/} 10 FERC para. 61,032 and 11 FERC para. 61,088.

^{2/} Executive Office of the President, Energy Policy and Planning, September 1977.

No comments were received. Accordingly, the Commission concludes that no party objects to the attachment of the condition. The Commission's reasons for proposing to attach the condition were set forth in the December 19 order, need not be reiterated herein, and are hereby incorporated by reference.

The Commission further finds:

(1) The condition set forth in the appendix to this order is related to the overall construction and operation of the Alaska Natural Gas Transportation System within the meaning of Section 9 of the Alaska Natural Gas Transportation Act.

(2) The condition set forth in the appendix to this order is required by the public convenience and necessity.

The Commission orders:

(A) The condition set forth in the appendix to this order shall be attached to the final certificates of public convenience and necessity issued by the Commission to Pacific Gas Transportation Company and Northern Border Pipeline Company in the Commission's orders of January 11, 1980, and April 28, 1980, respectively, as well as to the conditional certificates issued by the Commission in its order of December 16, 1977, all in Docket No. CP78-123, et al.

(B) This order shall become effective on its date of issuance. Pursuant to Sections 9 and 10 of the Alaska Natural Gas Transportation Act, this order constitutes final agency action and is not subject to the provisions for rehearing set forth in Section 19 of the Natural Gas Act and in Section 1.34 of the Commission's Rules of Practice and Procedure.

By the Commission.

(S E A L)

Kenneth F. Plumb

Kenneth F. Plumb,
Secretary.

Docket No. CP78-123, et al.

APPENDIX

CONDITION

The certificate holder shall comply with all of the requirements imposed on ANGTS project sponsors by the executive agreement set forth in the exchange of diplomatic notes between the United States and Canada, dated June 10, 1980, as those requirements are set forth in the "Procedures Governing the Procurement in Canada and the United States of America of Certain Designated Items for the Alaska Highway Gas Pipeline" adopted in said agreement. The certificate holder shall co-operate fully with the Federal Inspector in his interpretation and implementation of the agreement.

CORRECTION

CORRECTION

The Commission orders:

For the reasons stated above, any interested person who has previously filed a pleading within the 60 day period provided by the above referenced order of December 15, 1980, or has filed a responsive pleading within the March 16, 1981 deadline provided in the above-referenced order of January 14, 1981, may also file, no later than March 31, 1981, a pleading responsive to any new points raised in pleadings filed pursuant to the January 14, 1981 order. The matters at issue herein will be decided on the basis of all pleadings received by March 31, 1981; no further pleadings will be authorized.

By the Commission.

(S E A L)

Kenneth F. Plumb

Kenneth F. Plumb,
Secretary.

FEDERAL ENERGY
REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300

POSTAGE AND FEES PAID
FEDERAL ENERGY
REGULATORY COMMISSION
FERC 351



UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Georgiana Sheldon, Acting Chairman;
Matthew Holden, Jr., George R. Hall
and J. David Hughes.

Northwest Alaskan Pipeline Company)	Docket No. CP78-123, <u>et al.</u>
Northern Border Pipeline Company)	Docket No. CP78-124
Pacific Gas Transmission Company)	Docket No. CP79-60

ORDER ATTACHING CONDITIONS TO CERTIFICATES

(Issued February 23, 1981)

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In light of the limited number, nature and scope of the proposed conditions, as well as the statutory mandate of Section 9 of the Alaska Natural Gas Transportation Act (ANGTA), 15 U.S.C. 719g, that certification of the Alaska Natural Gas Transportation System be expedited, the Commission decided to use notice and comment procedures to consider the condition. In addition to other applicable law, this order is issued pursuant to Section 7(e) of the Natural Gas Act, 15 U.S.C. 717f(e). Section 9 of ANGTA, the President's Decision and Report to Congress on the Alaska Natural Gas Transportation System (Decision),^{2/} Paragraph 7 of the Agreement Between the United States of America and Canada on Principles Applicable to a Northern Natural Gas Pipeline, and Section 402(a) of the Department of Energy Organization Act, 42 U.S.C. 7172(a).

^{1/} 10 FERC para. 61,032 and 11 FERC para. 61,088.

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(2) The condition set forth in the appendix to this order is required by the public convenience and necessity.

The Commission orders:

(A) The condition set forth in the appendix to this order shall be attached to the final certificates of public convenience and necessity issued by the Commission to Pacific Gas Transportation Company and Northern Border Pipeline Company in the Commission's orders of January 11, 1980, and April 28, 1980, respectively, as well as to the conditional certificates issued by the Commission in its order of December 16, 1977, all in Docket No. CP78-123, et al.

(B) This order shall become effective on its date of issuance. Pursuant to Sections 9 and 10 of the Alaska Natural Gas Transportation Act, this order constitutes final agency action and is not subject to the provisions for rehearing set forth in Section 19 of the Natural Gas Act and in Section 1.34 of the Commission's Rules of Practice and Procedure.

By the Commission.

(S E A L)

Kenneth F. Plumb

Kenneth F. Plumb,
Secretary.

Docket No. CP78-123, et al.

APPENDIX

CONDITION

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NORTHWEST ALASKAN PIPELINE COMPANY

1120 20th Street, N.W.
Suite 5-700
Washington, D.C. 20036
(202) 872-0280

981.1

REA-81-1025
February 13, 1981

Mr. Kenneth F. Plumb
Secretary
Federal Energy Regulatory Commission
Room 9310
825 North Capitol Street, N.E.
Washington, D.C. 20426

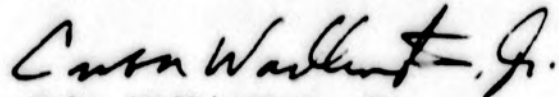
RE: Docket No. CP78-123, et al.
Pre-Partnership Expenditures

Dear Mr. Plumb:

Alaskan Northwest Natural Gas Transportation Company (the Partnership) herewith submits for filing an original and nineteen (19) copies of its Fourth Supplemental Application for an Order Approving Past Expenditures in the above-referenced docket.

Respectfully submitted,

NORTHWEST ALASKAN PIPELINE COMPANY



Cuba Wadlington, Jr.
Director, Regulatory Affairs

cc: All Parties of the Restricted Service List for CP78-123, et al.
RDM Index

CW:paw

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Alaskan Northwest Natural Gas Transportation Company) Docket CP78-123, et al.

FOURTH SUPPLEMENTAL APPLICATION
OF ALASKAN NORTHWEST NATURAL GAS TRANSPORTATION COMPANY
FOR AN ORDER APPROVING PAST EXPENDITURES

Alaskan Northwest Natural Gas Transportation Company (the Partnership), pursuant to the Alaska Natural Gas Transportation Act of 1976 (ANGTA), the Natural Gas Act, and the Commission's Order Vacating Prior Proceedings and Issuing Conditional Certificate of Public Convenience and Necessity issued December 16, 1977, herewith submits this fourth supplemental application for an order approving inclusion in rate base, the pre-Partnership "qualified expenditures" of Tetco Four, Inc. (Tetco Four) and Columbia Alaskan Gas Transmission Corporation (Columbia Alaskan).

I.

Background of Authorization Requested

A. The Partnership made an original filing on February 2, 1979, seeking review and approval of preliminary construction expenditures of \$31.8 million (excluding AFUDC) attributable to expenditures incurred prior to the date of formation of the Partnership for four companies who were part of the Arctic Gas Consortium and who are now members of the Partnership, and \$17.8 million (excluding AFUDC) expended by Northwest Alaskan Pipeline Company to prosecute its successful application, prior to the formation of the Partnership. 1/

On September 19, 1980, the Partnership filed the Third Supplemental Application including a request for approval of \$8.0 million (excluding AFUDC) pre-Partnership expenditures of American Natural Alaskan Company (American Natural Alaskan). American Natural Alaskan, which was part of the Arctic Gas Consortium, became a member of the Partnership effective January 1, 1980, as approved by Commission Order issued December 15, 1980.

1/ This Application also requested review and approval of Partnership expenditures for the period February 1, 1978 through July 31, 1978. The Partnership made additional filings on August 14, 1979, July 16, 1980, and September 19, 1980 covering the actual Partnership expenditures covering the periods January 1, 1979 through March 31, 1980.

On August 1, 1980, Tetco Four and Columbia Alaskan became members of the Partnership, as approved by Commission Order issued December 15, 1980. Affiliates of both Tetco Four and Columbia Alaskan were members of the Arctic Gas Consortium. The instant supplemental application seeks the review and approval of the pre-Partnership expenditures, excluding AFUDC, of \$7.9 million (Exhibit Z-13) for Tetco Four and \$8.0 million (Exhibit Z-14) for Columbia Alaskan. These pre-Partnership expenditures as with the previous five Arctic Gas participants were reasonable and necessary to the success of the Partnership pipeline project, and are properly includable in the capital accounts of each such partner, and in the rate base of the Partnership.

II.

Justification and Argument

The legal authority for the Commission's ability to grant the requested approval is detailed in the Partnership's original and supplemental applications. Such applications also contain the arguments as to why the Partnership requests should be approved at this time. The Partnership herewith incorporates in the instant supplemental application all prior justifications and arguments for the approval of past expenditures necessary to place the Alaska segment of the ANGTS in service. 2/

The names, titles and mailing addresses of the persons to whom all correspondence and communications concerning this application should be addressed are as follows:

Mr. Darrell B. MacKay
Vice President
Northwest Alaskan Pipeline Company
Suite S-700
1120-20th Street, N.W.
Washington, D.C. 20036

2/ The Commission issued an Order to Show Cause on December 15, 1980 to which was attached an audit report from the Commission's Office of the Chief Accountant recommending rejection of the pre-Partnership expenditures of the four Arctic Gas participants covered in the initial application described previously. The Partnership believes that there are substantial and valid reasons why these costs were reasonable and necessary to place the Alaskan segment of the ANGTS in service and should therefore be included in the Partnership's rate base. The Partnership will file comments on February 13, 1981 supporting this position. Since the costs filed herein are part of the total Arctic Gas group expenditures, the justification described in those comments will apply equally to these expenditures.

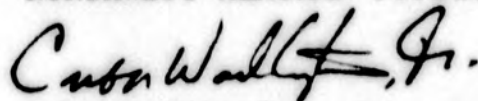
*Mr. Cuba Wadlington, Jr.
Director, Regulatory Affairs
Northwest Alaskan Pipeline Company
Suite S-700
1120-20th Street, N.W.
Washington, D.C. 20036

*Rush Moody, Jr., Esquire
Akin, Gump, Strauss, Hauer & Feld
Suite 400
1333 New Hampshire Avenue, N.W.
Washington, D.C. 20036

WHEREFORE, the Partnership respectfully requests that the Commission issue an order pursuant to ANGTA, the Natural Gas Act, and the President's Decision, giving final approval to the expenditures described herein, as well as those expenditures described in the initial and supplemental applications for ultimate inclusion in the rate base for the Alaska segment of the Alaska Natural Gas Transportation System.

Respectfully submitted,

NORTHWEST ALASKAN PIPELINE COMPANY



Cuba Wadlington, Jr.
Director, Regulatory Affairs

Dated February 13, 1981

* Designated to receive service in accordance with Section 1.17(c) of the Rules of Practice and Procedure.

**ALASKAN NORTHWEST NATURAL GAS TRANSPORTATION COMPANY
GAS ARCTIC/NORTHWEST PROJECT STUDY GROUP - NOW ANNGTC PARTNER
QUALIFIED EXPENDITURES 1/**

	<u>Tetco Four, Inc.</u>
1. GENERAL & ADMINISTRATION	
Direct Operations	\$ 1,318,452
Indirect Operations	281,494
	<u>1,599,946</u>
2. OUTSIDE SERVICES	
Legal	406,578
Executive	39,060
Finance	242,100
Regulatory, Environmental and Civic Affairs	1,427,262
Administration	125,438
Public Relations	164,231
Engineering	3,478,016
	<u>5,882,685</u>
3. TERMINATION AND CLOSE-OUT COST	390,402
4. GOVERNMENT AGENCIES	16,535
5. OTHER COSTS	<u>52,205</u>
Subtotal	7,941,773
6. AFUDC 2/	<u>5,157,291</u>
Total Qualified Expenditures including AFUDC	<u>\$ 13,099,064</u>

1/ Expenditures made prior to January 31, 1978.

2/ Includes only an interest component on funds spent accumulated through July 31, 1980 at prime plus 1%.

**ALASKAN NORTHWEST NATURAL GAS TRANSPORTATION COMPANY
GAS ARCTIC/NORTHWEST PROJECT STUDY GROUP - NOW ANNGTC PARTNER
QUALIFIED EXPENDITURES 1/**

	<u>Columbia Alaskan Gas Transmission Corporation</u>
1. GENERAL & ADMINISTRATION	
Direct Operations	\$ 1,328,836
Indirect Operations	283,712
	<u>\$ 1,612,548</u>
2. OUTSIDE SERVICES	
Legal	409,780
Executive	39,368
Finance	244,007
Regulatory, Environmental and Civic Affairs	1,438,504
Administration	126,426
Public Relations	165,525
Engineering	3,505,411
	<u>\$ 5,929,021</u>
3. TERMINATION AND CLOSE-OUT COST	393,477
4. GOVERNMENT AGENCIES	16,666
5. OTHER COSTS	<u>52,616</u>
Subtotal	8,004,328
6. AFUDC 2/	<u>5,214,027</u>
Total Qualified Expenditures including AFUDC	<u><u>\$13,218,355</u></u>

1/ Expenditures made prior to January 31, 1978.

2/ Includes only an interest component on funds spent accumulated through July 31, 1980 at prime plus 1%.

VERIFICATION

THE DISTRICT OF COLUMBIA

I, CUBA WADLINGTON, JR., being first duly sworn on his oath, deposes and says:

That he is Director of Regulatory Affairs of Northwest Alaskan Pipeline Company and is duly authorized to make this affidavit, that he has read the foregoing and is familiar with the contents thereof, and that the facts and allegations contained therein are true and correct to the best of his information, knowledge and belief.

Cuba Wadlington, Jr.
Cuba Wadlington, Jr.

SUBSCRIBED AND SWORN TO before me this 13th day of February, 1981.

Patricia A. Walker
Notary Public

My Commission expires My Commission Expires January 1, 1986.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated by the official service list compiled by the Secretary in this proceeding in accordance with the requirements of Section 1.17 of the Rules of Practice and Procedure.

Dated at Washington, D.C., this 13th day of February, 1981.

Cuba Wadlington, Jr.
Cuba Wadlington, Jr.